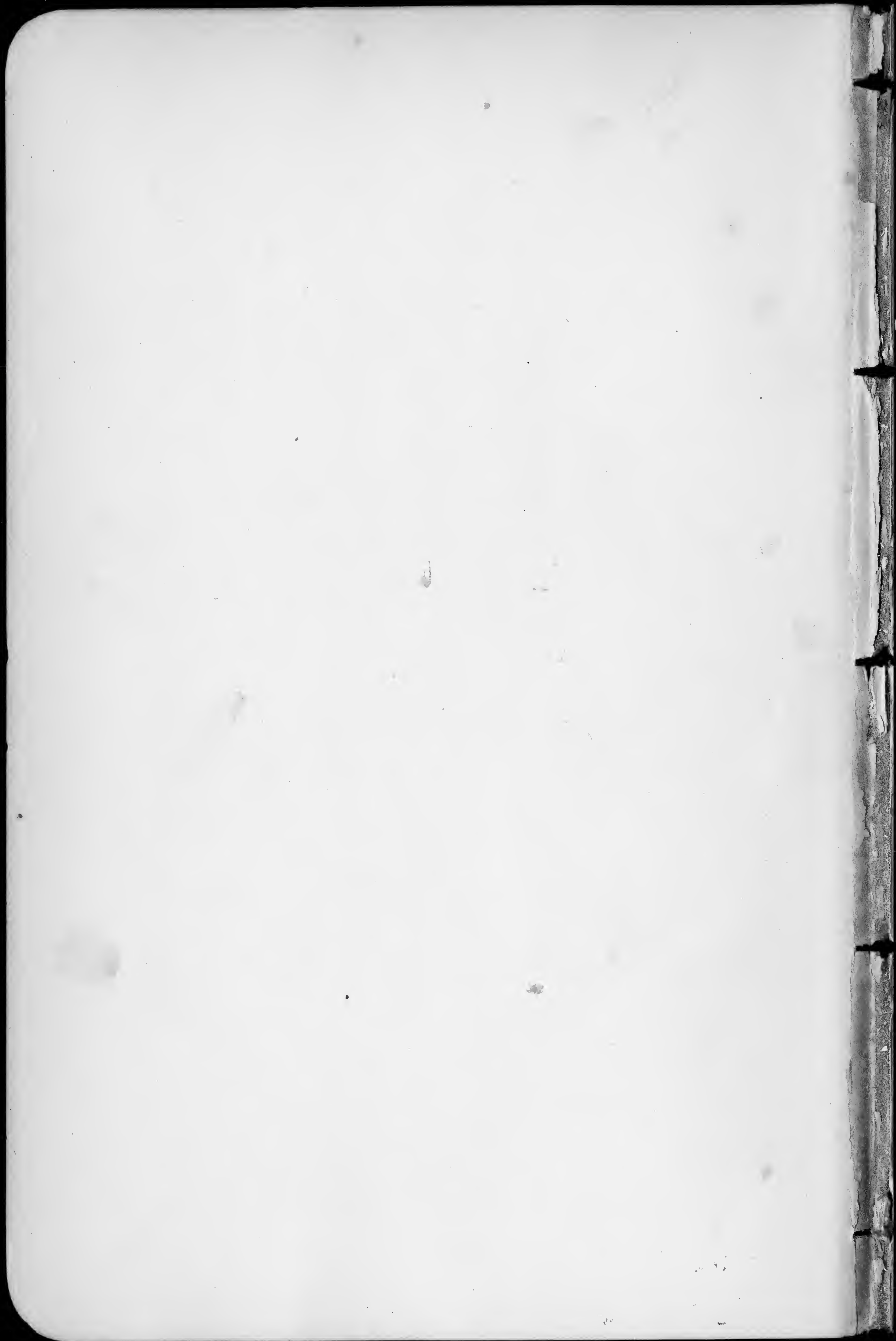


Coville Oregon

Journal

1898

[Pencil collection numbers added
by H. St. John Apr. 1975.]



Woodland, Oregon, July 15, 1898.

Plants about camp.

Acer macrophyllum.

Thuja plicata.

Larix oregana

Abies grandis

Populus trichocarpa

Corylus californica

Acer circinnatum

Osmaronia cerasiformis

Rubus vitifolius

Rubus spectabilis

Symphoricarpos

Ribes atripes

Rosa macrocarpa

Cornus nuttallii

Crataegus rivularis

Rosa gymnocarpa

Berberis aquifolium

Amelanchier alnifolia

Spiraea douglasii

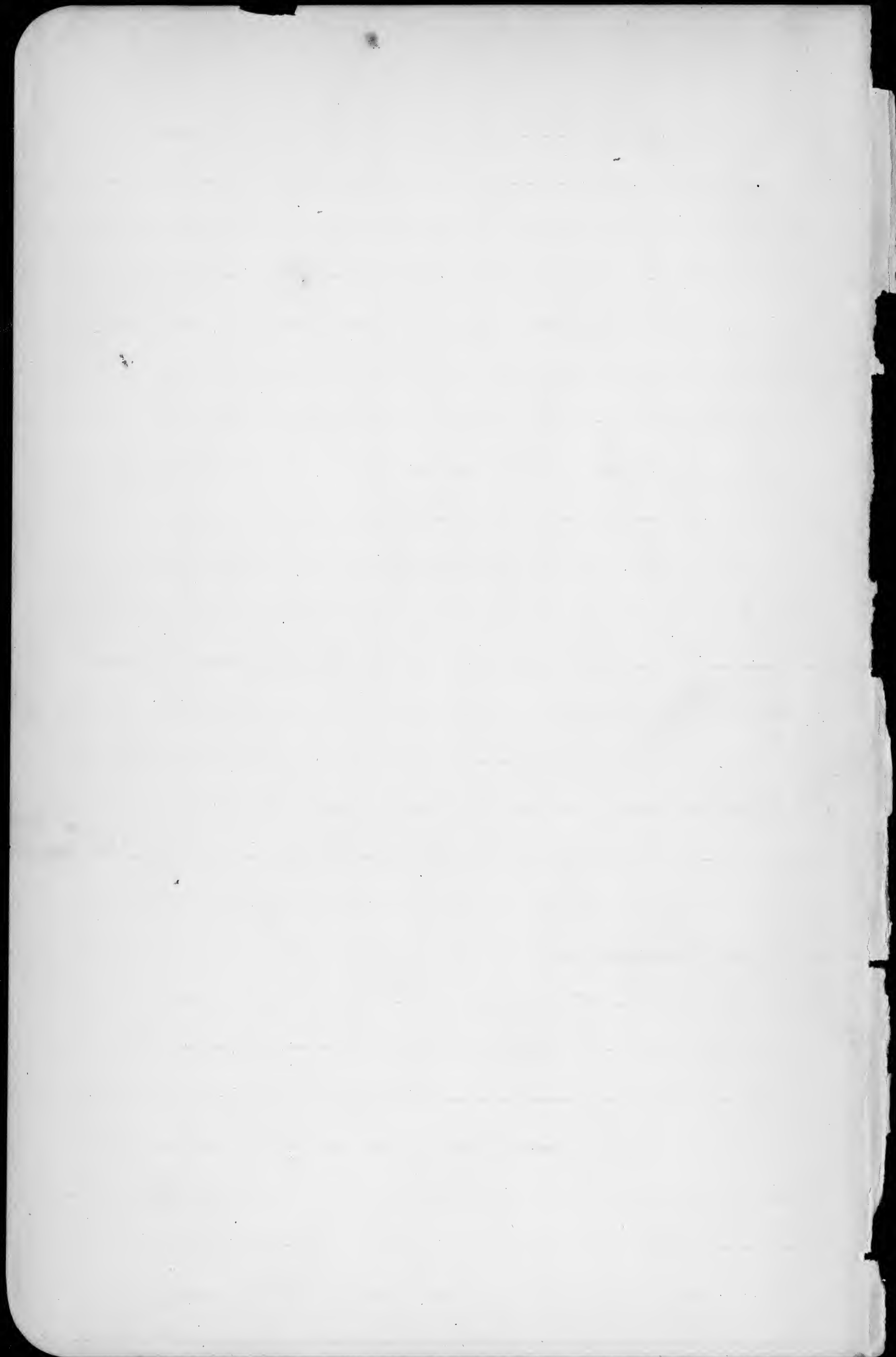
Rubus leucodermis

Pyrus rivularis

Sambucus glauca

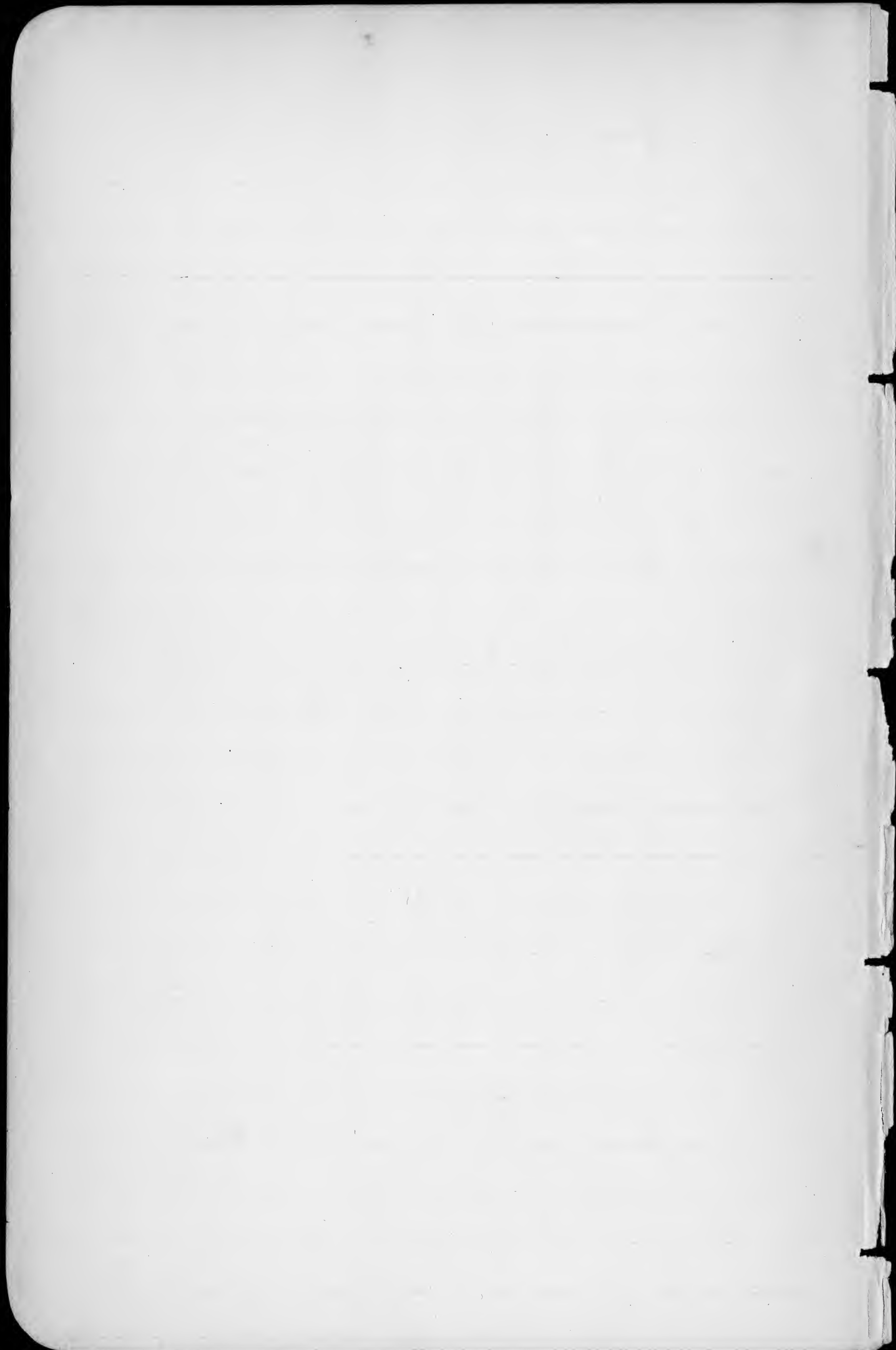
Philadelphus lewisii

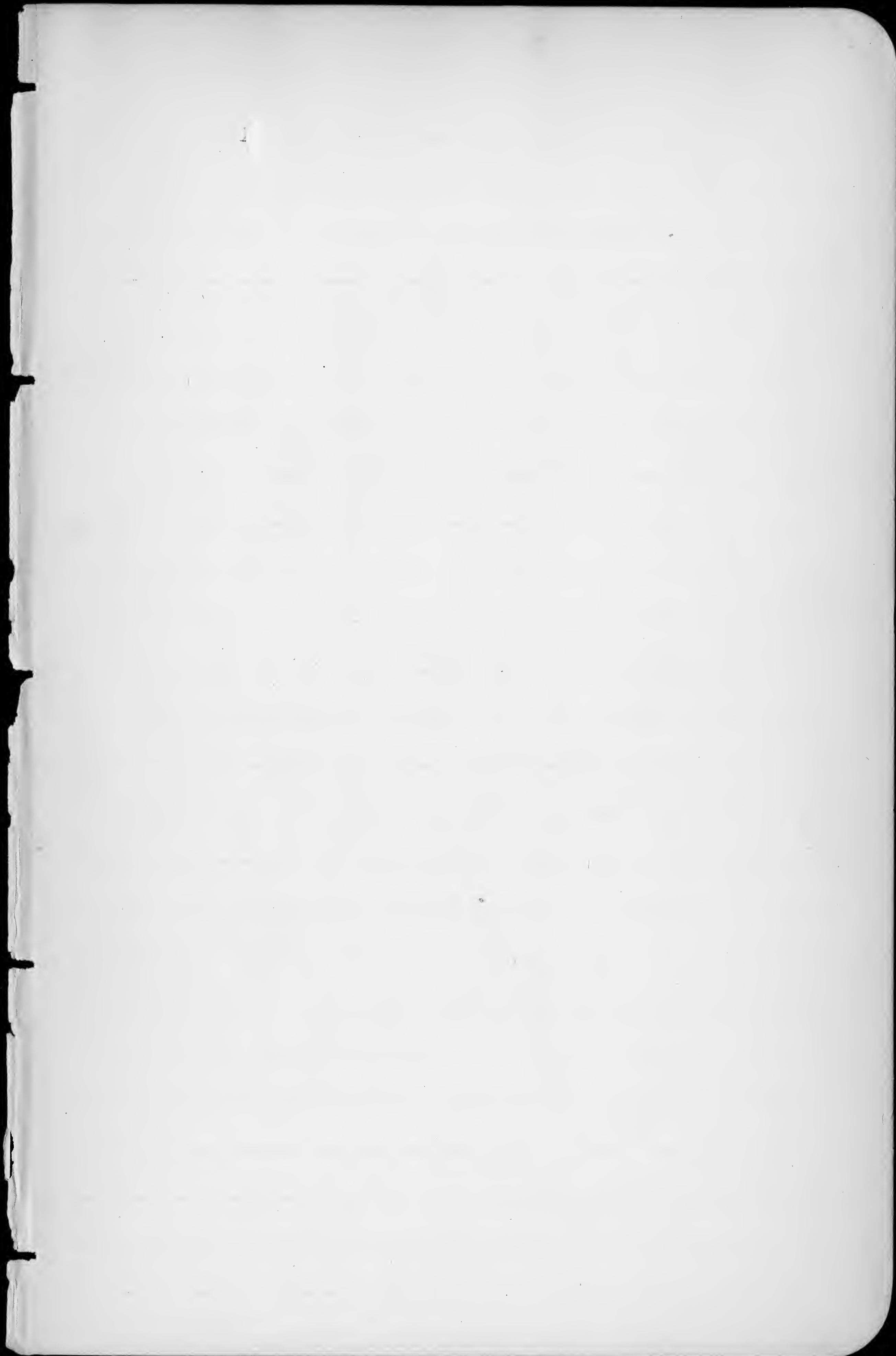
Rhamnus purshiana

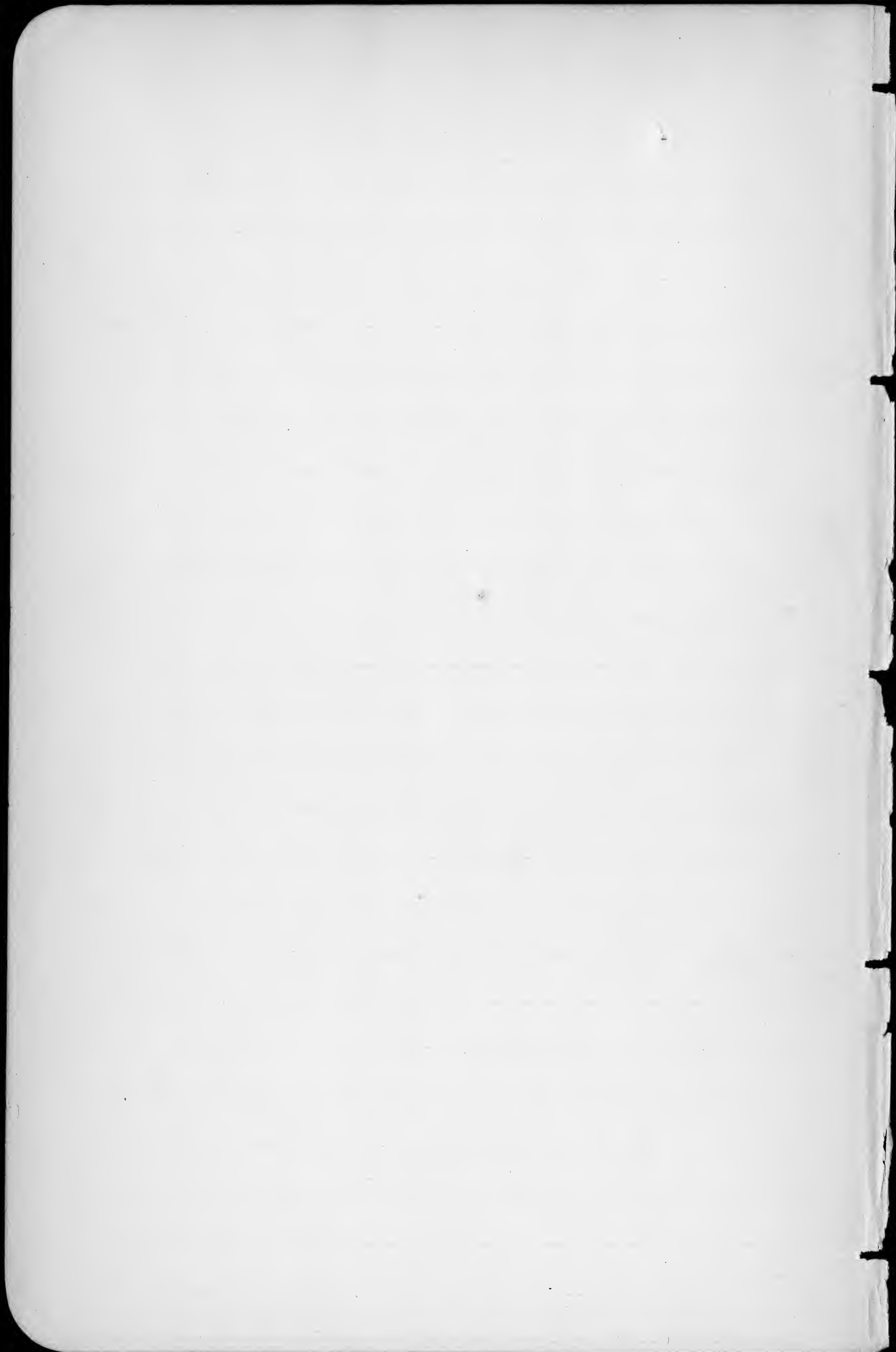


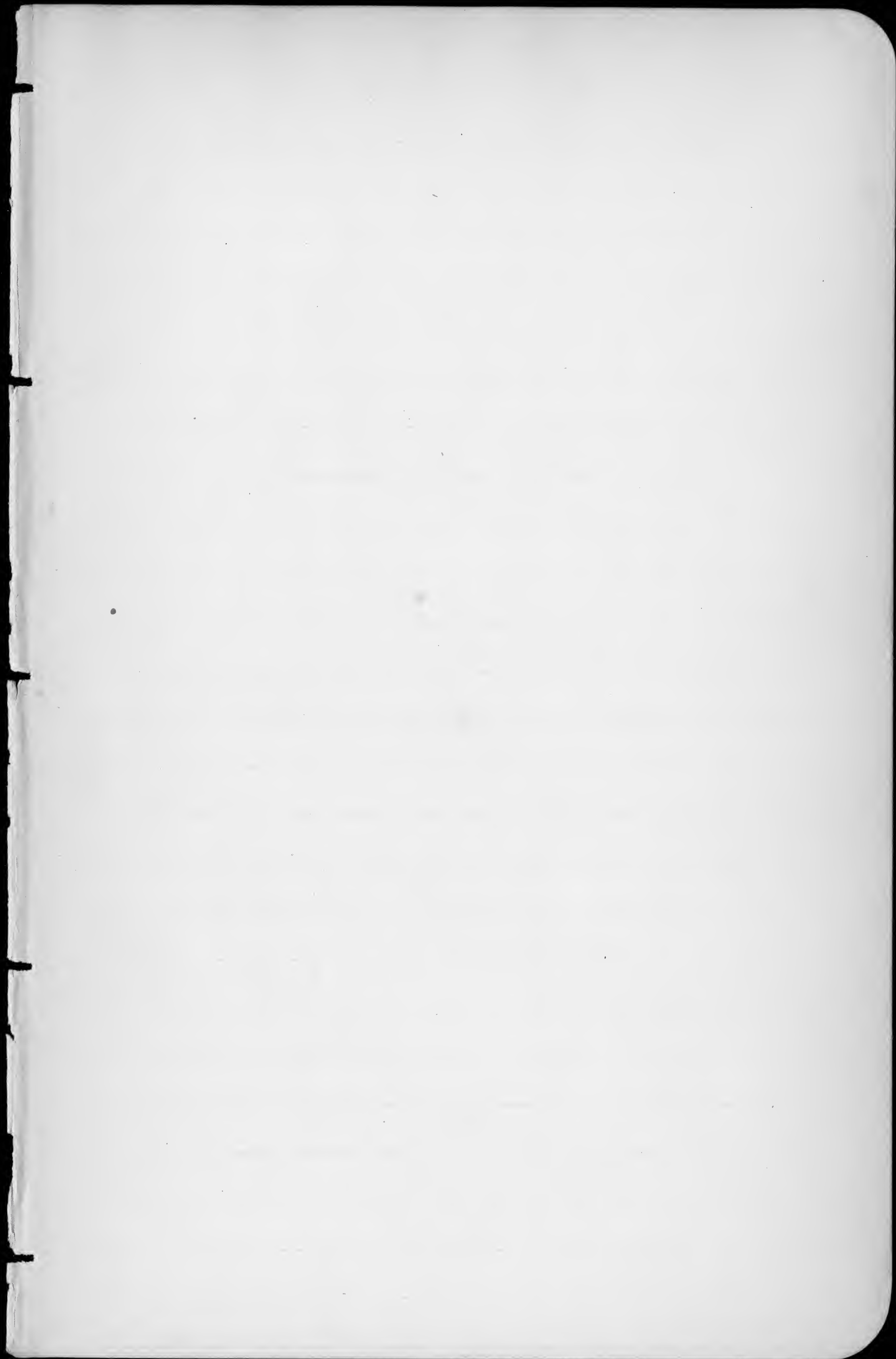
Salix (mitchellii) scouleriana
Lonicera ciliosa

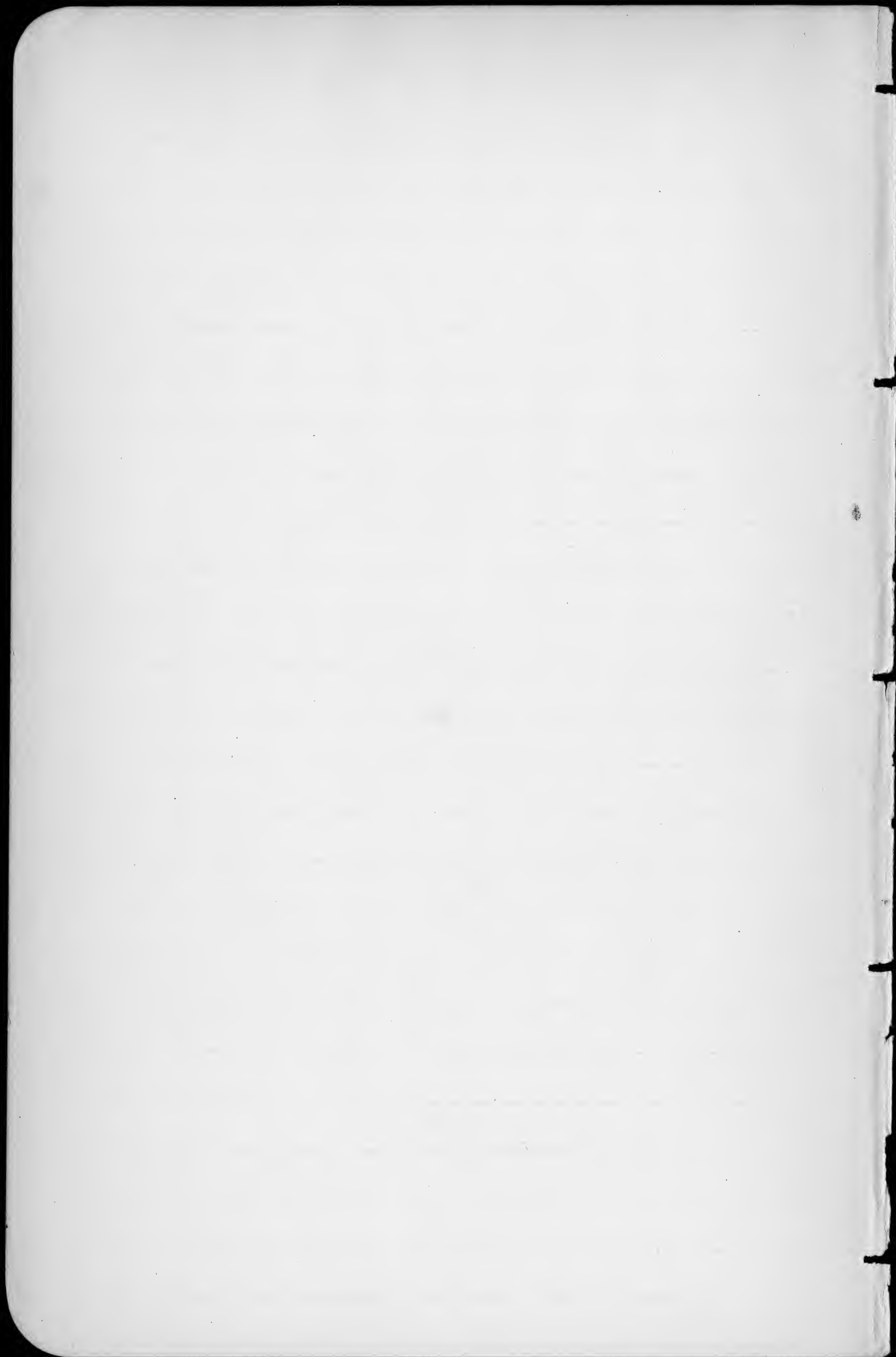
No. 701

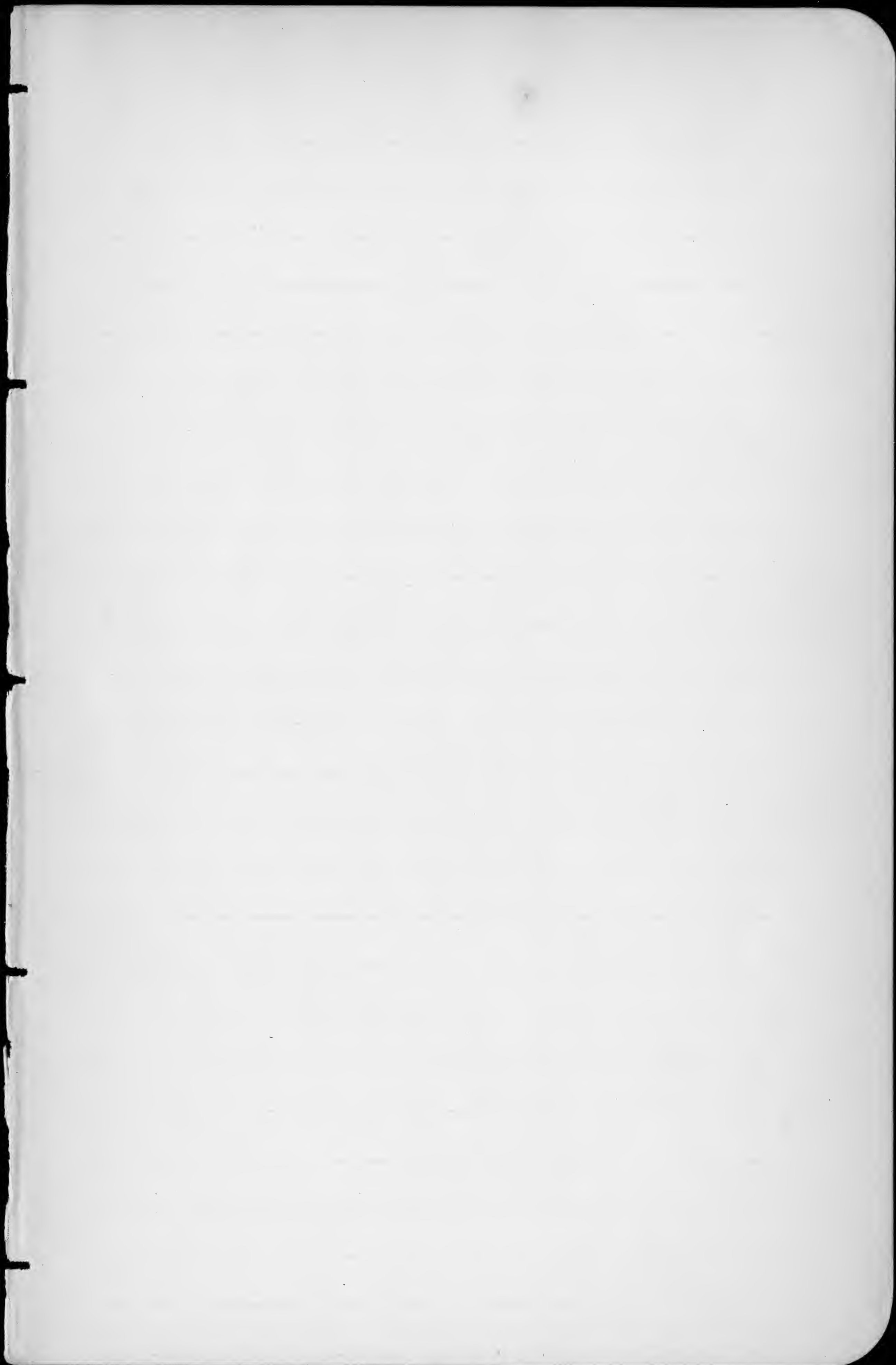


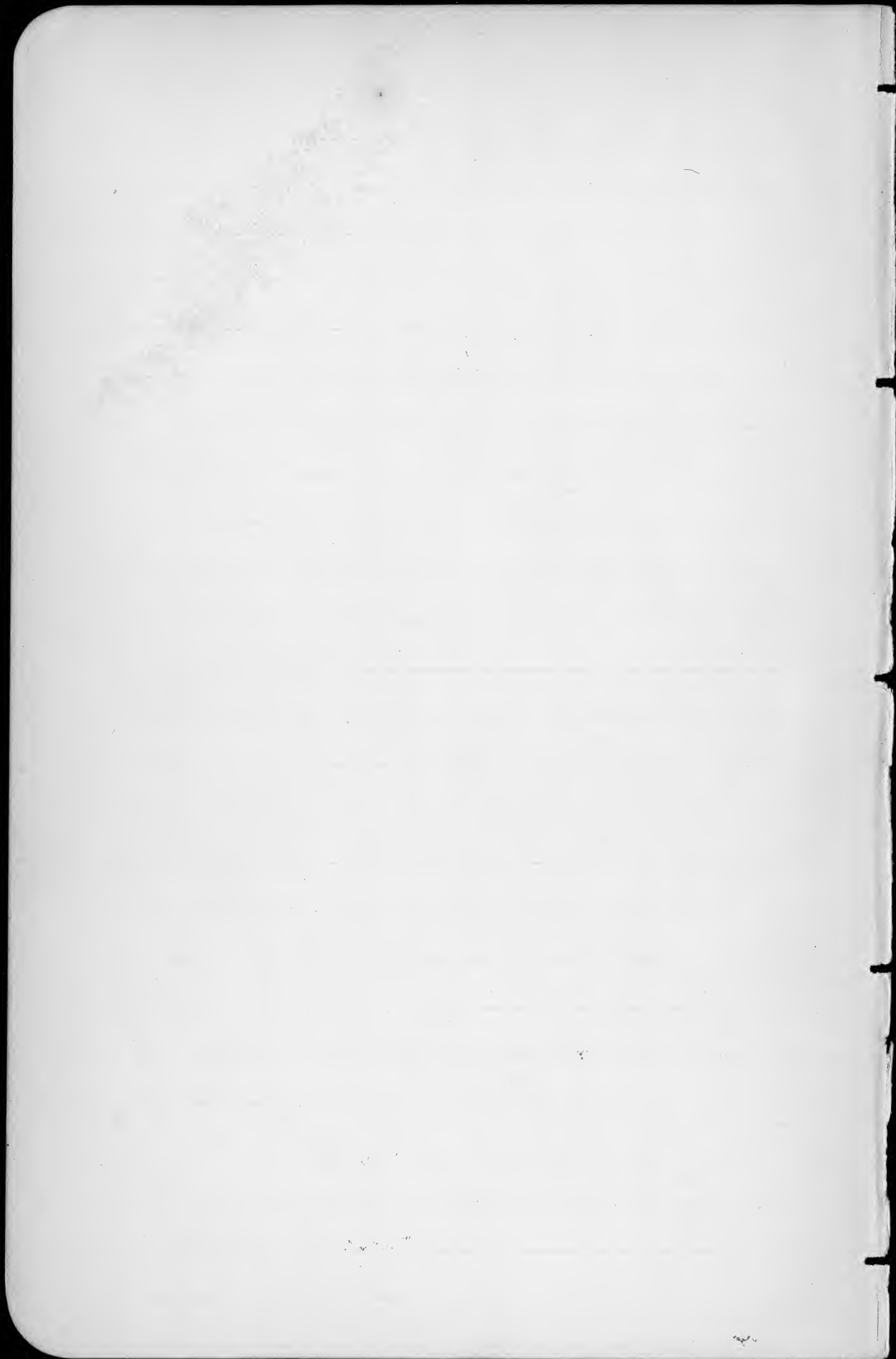












July 18, 1898.
Camp at northeast corner of Lake Merrill.

In the water of the lake are.

Ranunculus reptans, in flower

Botrachium

Polygonum amphibium in flower sparingly

Eleocharis palustris

Around the lake are

Populus trichocarpa, fallen fruit hairy

Alnus incana

Salix (populoides) *lasiantha*

.. (discoloroides) *piperi*

No. 751

.. *longifolioides*

No. 752

.. (velutinus) *sitchensis*

Cornus sanguinea

Spiraea douglasii, in flower

Forest vegetation

Tsuga heterophylla

Pseudotsuga mucronata

Thuja plicata

Acer macrophyllum

Acer circinatum

Berberis nervosa

Dryopteris muricata?

Oxalis

in fruit.

} Mostly near the lake

Cornus nuttallii

Vaccinium papillosum spring

Rosa seminifera, in fruit

Rosa gymnocarpa, with young fruit

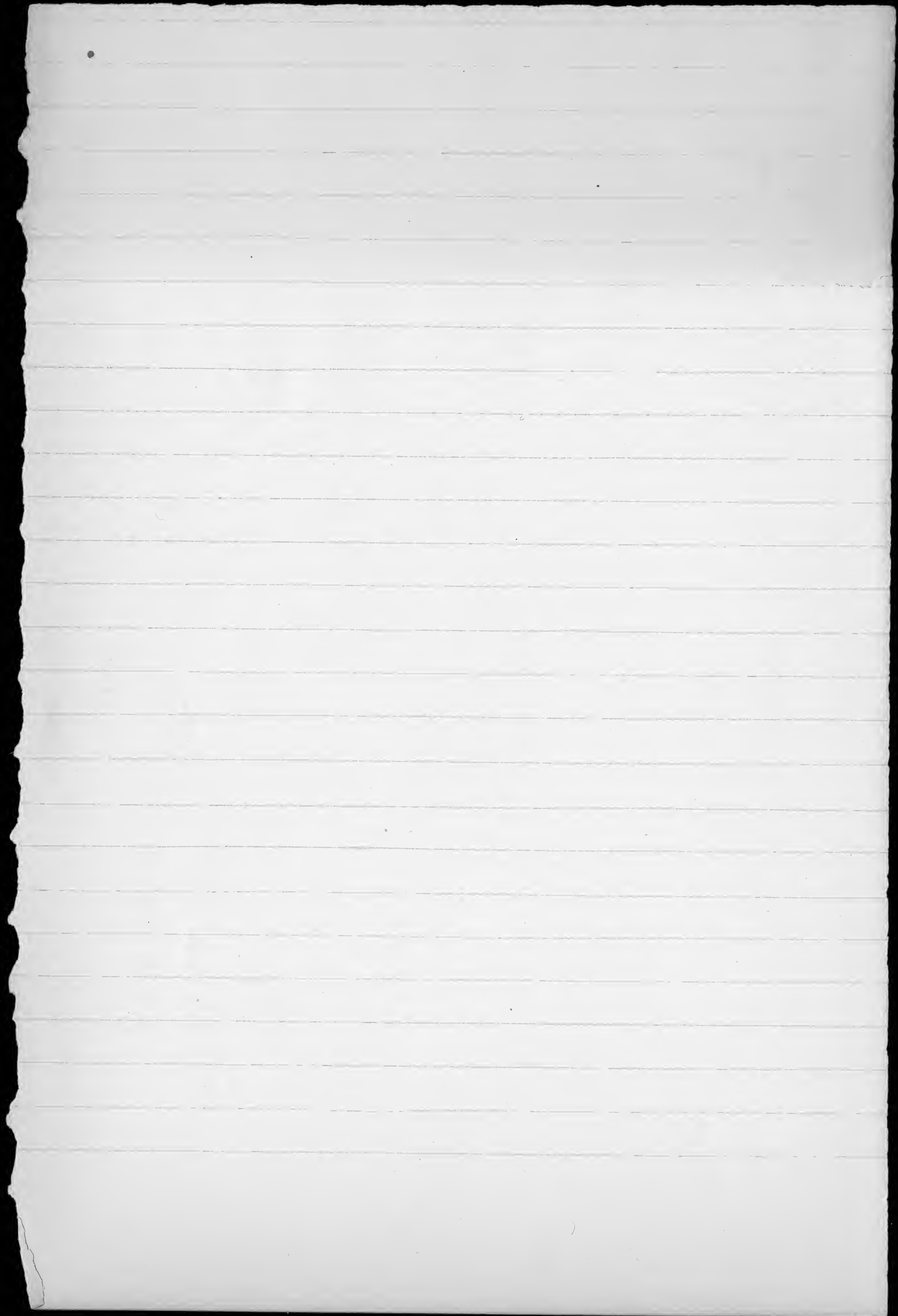
125

~~Ala~~

44

Oregon

1898



Achlys triphylla. Leaf-texture of *Joffersonia*. Young fruit
Triarrella , in flower.

Viola orbiculata!

Clintonia uniflora, past flowering

Peranimum

Disporum past flowering

Vagnera simplex, " "

Coptis in fruit

Trillium in fruit

Pyrola

Rubus vitifolius

Bottom at north end of lake, additional to above.

Limnæa borealis

Lycopodium

Sorbus sambucifolia

Cornus canadensis, past flowering

Abies amabilis

Pedicularis ~~racemosa~~, beginning to flower.

Vancoveria in fruit.

Chimaphila umbellata, in flower

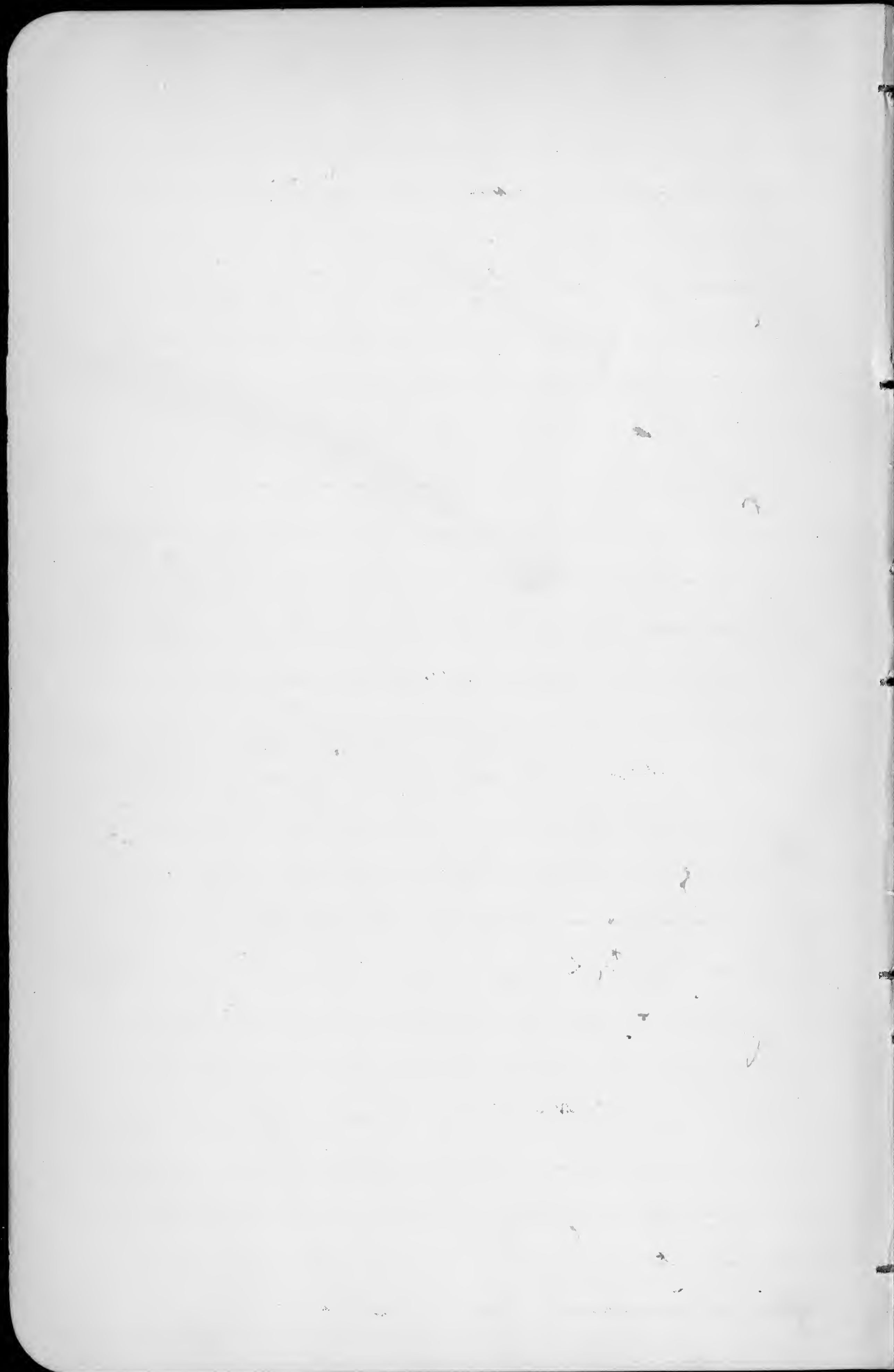
Laprus brevifolia

Rhamnus purshiana

Adiantum pedatum

Stahtopus amplexifolius?, with young fruit

Osmorhiza cerasiformis



Adenocaulon

Aruncus aruncus, past flowering

Alnus incana

Anemone nemorosa } Along a stream

Hydrophyllum

Phegopteris

Dryopteris

Actaea

Anemone trifolia, past flowering

" pedata

Tridentalis

Vagnera paniculata, with young fruit.

Lomaria

Corallorhiza in flower

Rubus spectabilis, along a stream, in fruit

Saxifraga? altissima " in flower

Rubus parvifolius " in fruit

Hydrophyllum in flower

Lilium columbianum in flower.

Pachystima

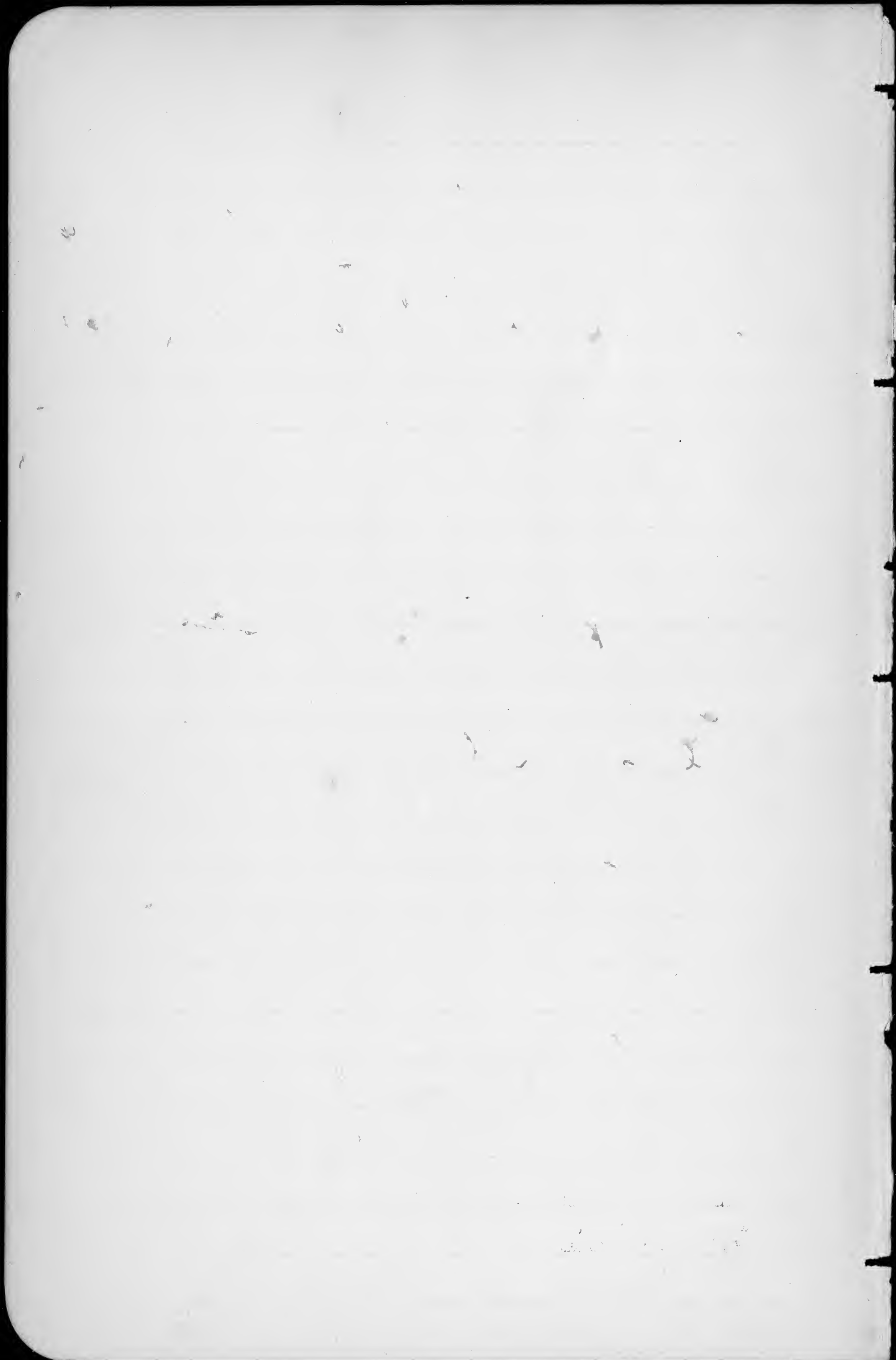
Gaultheria shallon

" ovatifolia

Lupinus

Arctostaphylos uva-ursi.

Pentstemon decumbens



Listera

Pinus monticola

At an elevation probably not 100 feet above the lake we came upon a gently sloping soil of volcanic drift the principal trees of which was

Pinus murrayana, with a small admixture of

Pinus monticola

Pseudotsuga mucronata

Larix heterophylla, the principal shrub being

Arctostaphylos nevadensis ^{nevadensis} ~~uva-ur~~, with considerable

Vaccinium parvifolium,

Chimaphila umbellata, and in spots

Gaultheria shallon. We saw here for the first time

Vaccinium membranaceum Doubtless

Alnus sinuata

straggles from above.

Antennaria margaritacea

Hieracium albiflorum

Rumex acetosella

Epilobium angustifolium

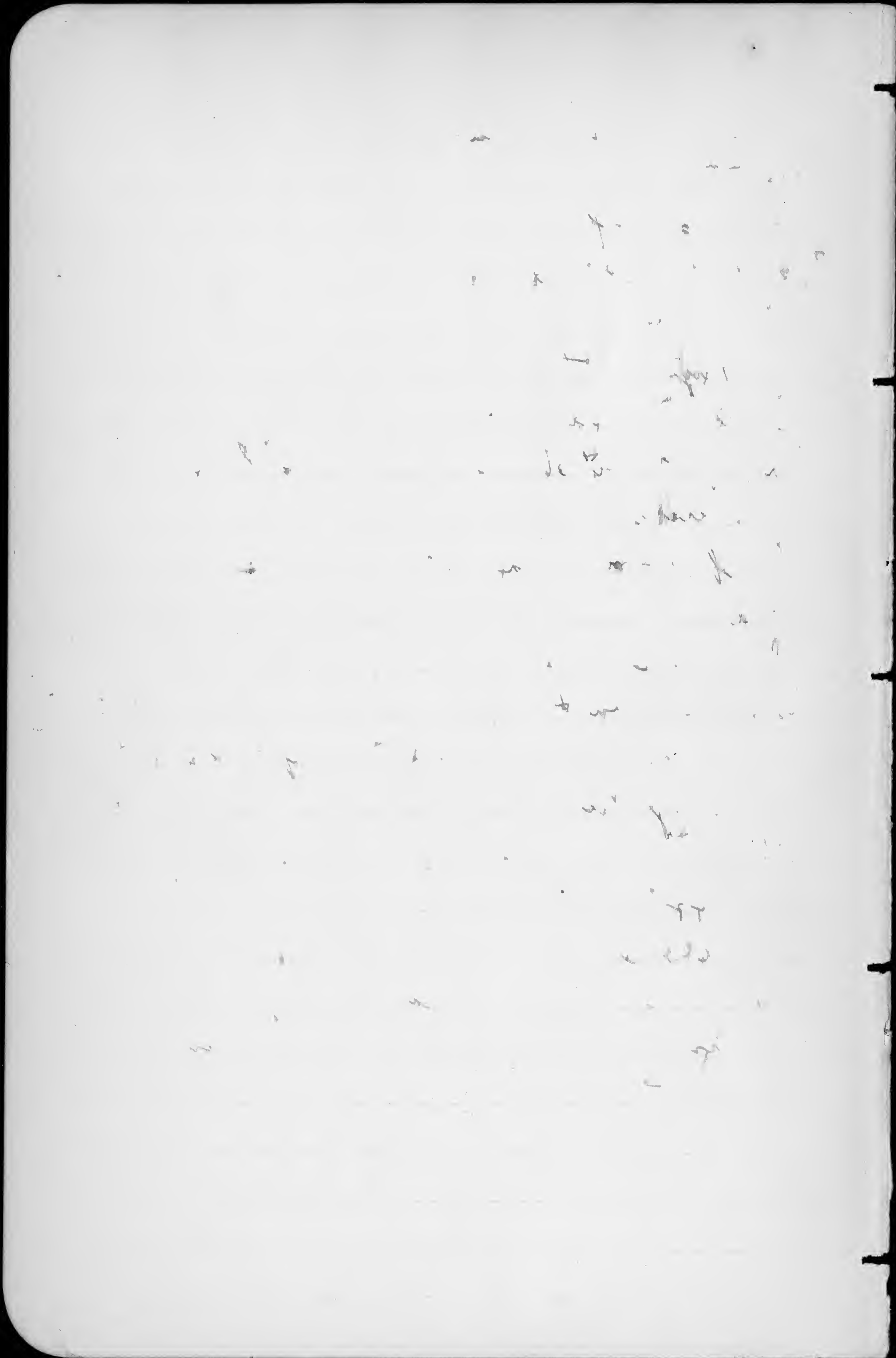
Pyrola secunda.

Crossing of the Kalama.

Messyusia

Along the Kalama

Allotropa



Lupinus minimus

Pentstemon

Abies lasiocarpa

Base of Goat Mountain

Abies nobilis

Xerophyllum tenax

Castilleja miniata

Slope of Mount St Helens, on exposed lava

Holodiscus

Cryptogramma acrostichoides

Phlox

Juniperus nana

Along a rivulet in *Abies lasiocarpa*, *Pinus monticola*, and *P. murrayana*

Sambucus leucocarpa, nearly past flowering

Viola glabella, past flowering

Aquilegia formosa, in flower

Artemisia

Epilobium in bud.

Veronica ~~off~~ *serpyllifolia*

Mimulus lewisii? much in bud

Veratrum viride.

Besides things collected.
On dry ground

Calochortus subalpinus

Polygonum Newberryi

Juncoides campestris

Juncus parryi

} Collected 765
766

Podystima nysinites

Pteris aquilina lanuginosa

Acer circinatum

Vagnera paniculata

Viola glabella.

Chimaphila menziesii, under *Abies nobilis*.

Pedicularis racemosa

Eucalyptus

Eriogonum pyrrolaeifolium

Fragaria

Luethia pectinata

Bryanthus empetrifolius

Hieracium gracile.

Near the lower camp.

Corallorhiza

Ribes bracteatum

Of these the plant ~~with~~ standing the greatest degree of
acidity is Eriogonum pyrolaeifolium.

July 19, 1898.

Mount St. Helens

Plants of the lava drift at timber line

Eucephalus , collected

Eriogonum pyrolaeifolium

Lupinus *exallii* Gray, collected yesterday 769

Polygonum " " "

Phlox diffusa ssp *longistylis* " " 767

Juncus parryi

Agoseris aurantiaca (Hook.) Greas collected yesterday 810

Pseudanemone *anemone* *angustatum* (C. R.) S. + John 756

Castilleja coccinea Piper. Type " " 768

Sphaquea " "

Luethia pectinata

Pentstemon scrofulatus newss *menziesii* - like, collected yesterday 774

Achillea millefolium

Poa , collected

Carex " "

Elymus ? " "

Tritium ? *spicatum* (L.) Reut. collected 796

Grass " "

On rocky and somewhat moist slopes

Lupinus

Xerophyllum

Vaccinium membranaceum Grease

Erysimum capitatum (Donk) collected yesterday 777

Mr. Johnson found
Pulsatilla occidentalis
no specimen

Pentstemon

not like *menziesii*, coll. yu

Spiraea obuscula

Gilia nuttallii

Arnica

At base of rocks.

Phyllodoce gland ~~gland~~ *erubetiformis*

785

On rocks

Phyllodoce glanduliflora

782

Juniperus nana

Cryptogramma

Oxyria

Campanula

Heuchera

Lycodium, with the two *Phyllodoce*s, coll.

also

Geranium albiflorum

Fragaria cuneifolia Nutt. collected 806

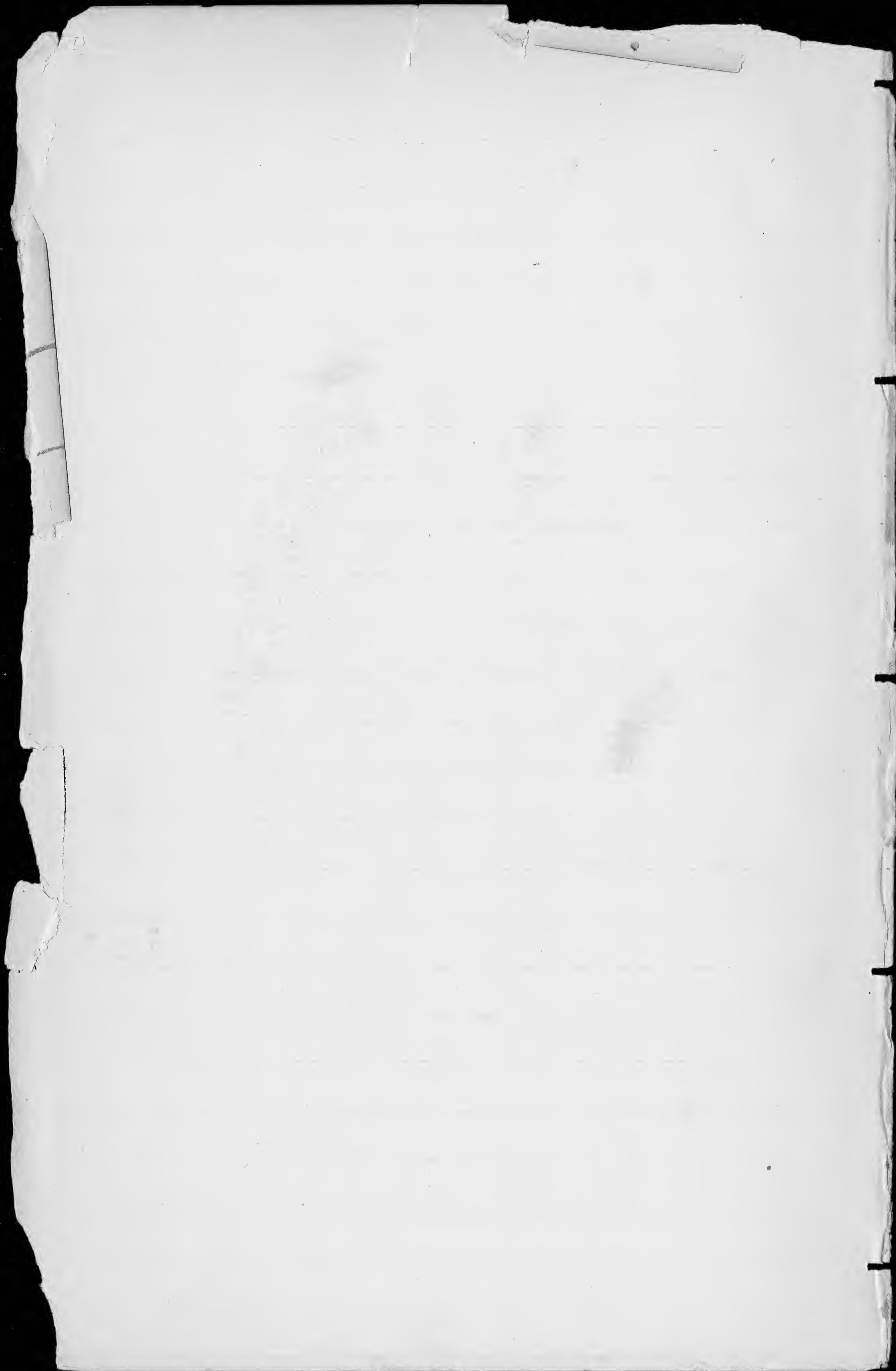
Aspidium lonchites

Antennaria media Greene collected 805

Form of *Abies lasiocarpa* near timber line some times as follows:



Note naked trunk on up-hill side. This shows where sliding snow has broken off the branches.



and then the characteristic lava drift vegetation of timber-line

The shrub going highest up is

Phyllodoce empetrifolia, and the next is

Sorbus occidentalis

Above timber-line, ^{and above the lava drift vegetation,} ~~are~~ many places where alpine plants of many kinds might grow, but these sheltered rocky nooks are occupied only by

Saxifraga tolmiei; and

Juncus parryi, both of which are abundant

The following were seen above the limit of trees, in addition to those just mentioned in the descent

Vaccinium membranaceum

Agoseris aurantiacum, not seen going up

Antennaria alpina

Castilleja

Eucephalus

Unknown grass collected to-day

Elymus

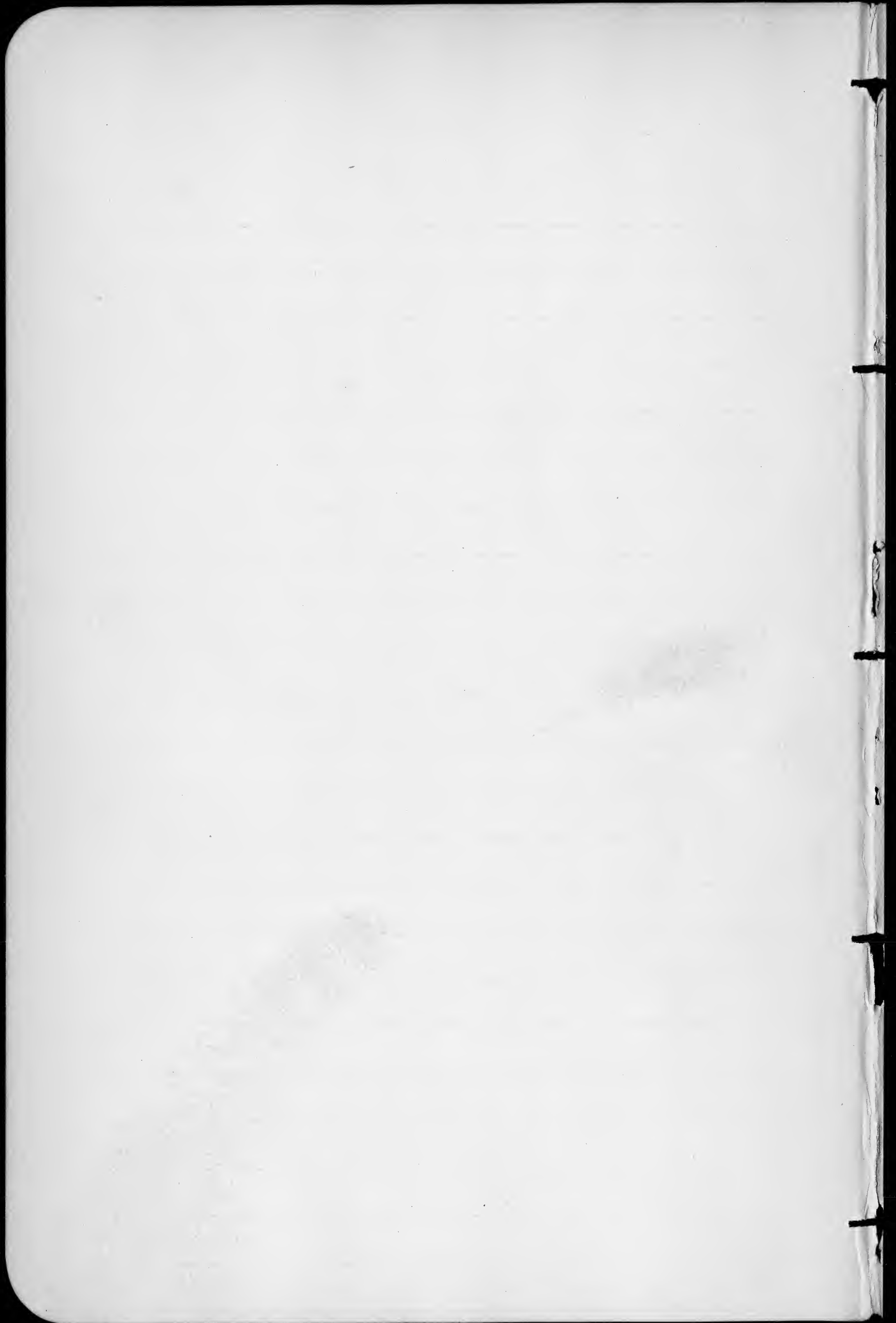
Cryptogramma

Linnaea pectinata.

Pseudotsuga mertensiana

The trees growing at timber line are

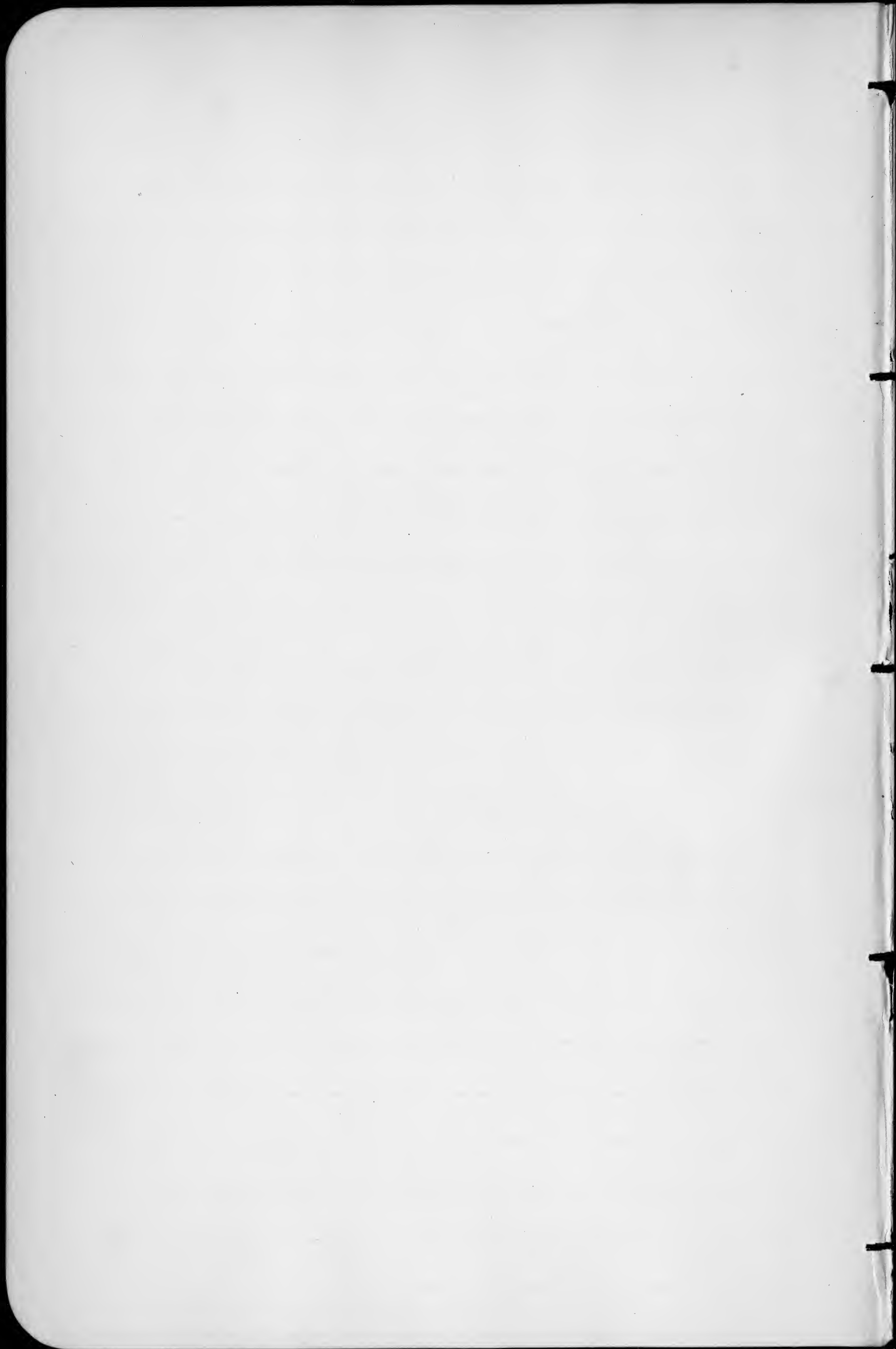
Abies lasiocarpa, and



Pinus murayana, while ^{no specimen}
Pinus monticola and
Abies nobilis are so close as almost to
reach timber line. ^{no *A. procera* Rehd. - no specimen}

The fact that the flora of Mount St. Helens is very sparse is doubtless due to the youth, geologically speaking, of the mountain. This results in

1. Aridity of the soil
2. Instability of the soil and rocks, due to rapid erosion.
3. Sterility of the soil, and
4. Perhaps to the inability of the mountain to stock itself ^{with alpine} plants during the glacial period.



July 20, 1895

Mount St. Helens, Skamania Co., Wash.

Made a trip up the mountain southeastward from Three Buttes camp.

Plants in general same as yesterday. The following were seen highest:

Eriogonum pyrolaeifolium

Spraguea umbellata

Juncus parryi.

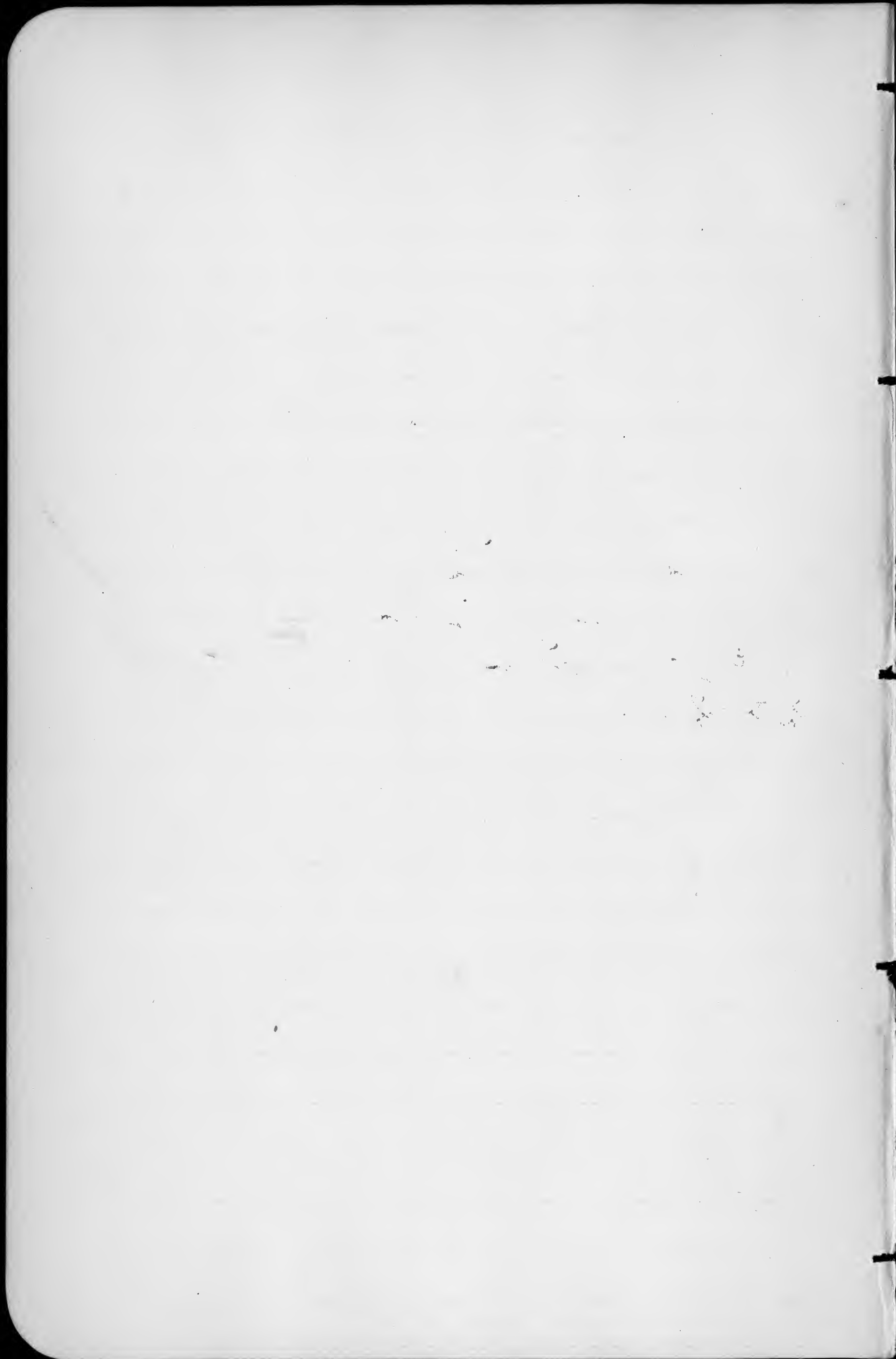
Saxifraga tolmiei was also seen high up.

Achillea millefolium was seen above timber line

Abies nobilis was seen at timber line

Visited a crag or butte about two or three miles ^{southeast} from camp, jutting out from the mountain near its base. The northeast slope is covered with a vegetation chiefly of Phyllodoce empetrifolia, and it may therefore be called "Feather Butte".

On slopes having reached a ~~considerable~~ considerable degree of stability and fed by a sufficient amount of snow water to keep the ground moist all summer, Luethkea pectinata and ~~Bryum~~ Phyllodoce empetrifolia take an early hold and the latter especially forms humus rapidly. These are apt to be followed by



Xerophyllum tenax

Vaccinium membranaceum,

Sorbus occidentalis, and other shrubs,
if the elevation is not too high for them.
This is the case on Heather Butte.

A Lupinus not seen before was col-
lected ~~in~~ open spots of the heather here.

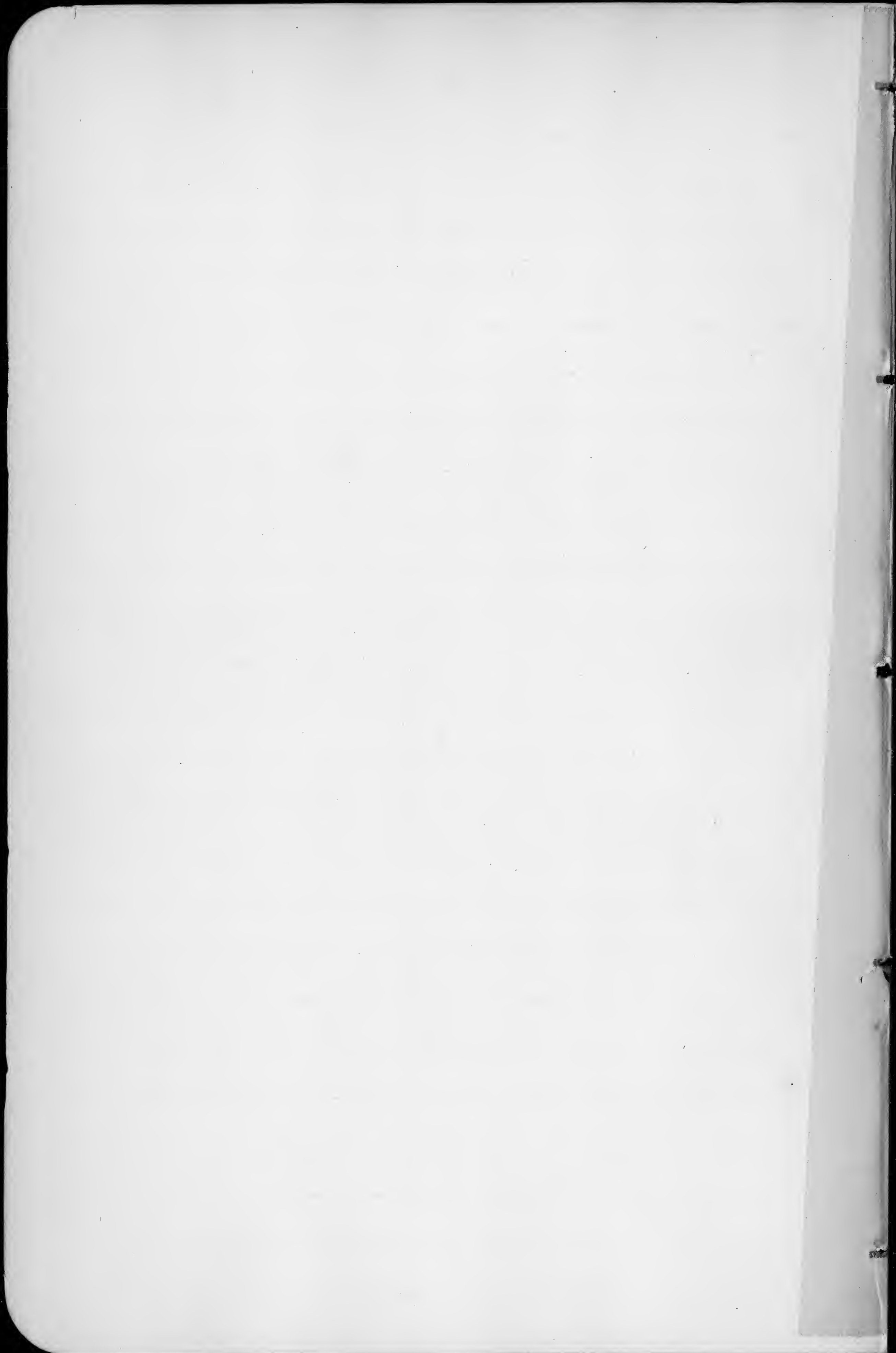
On the way back to camp, at the
base of the lava flows

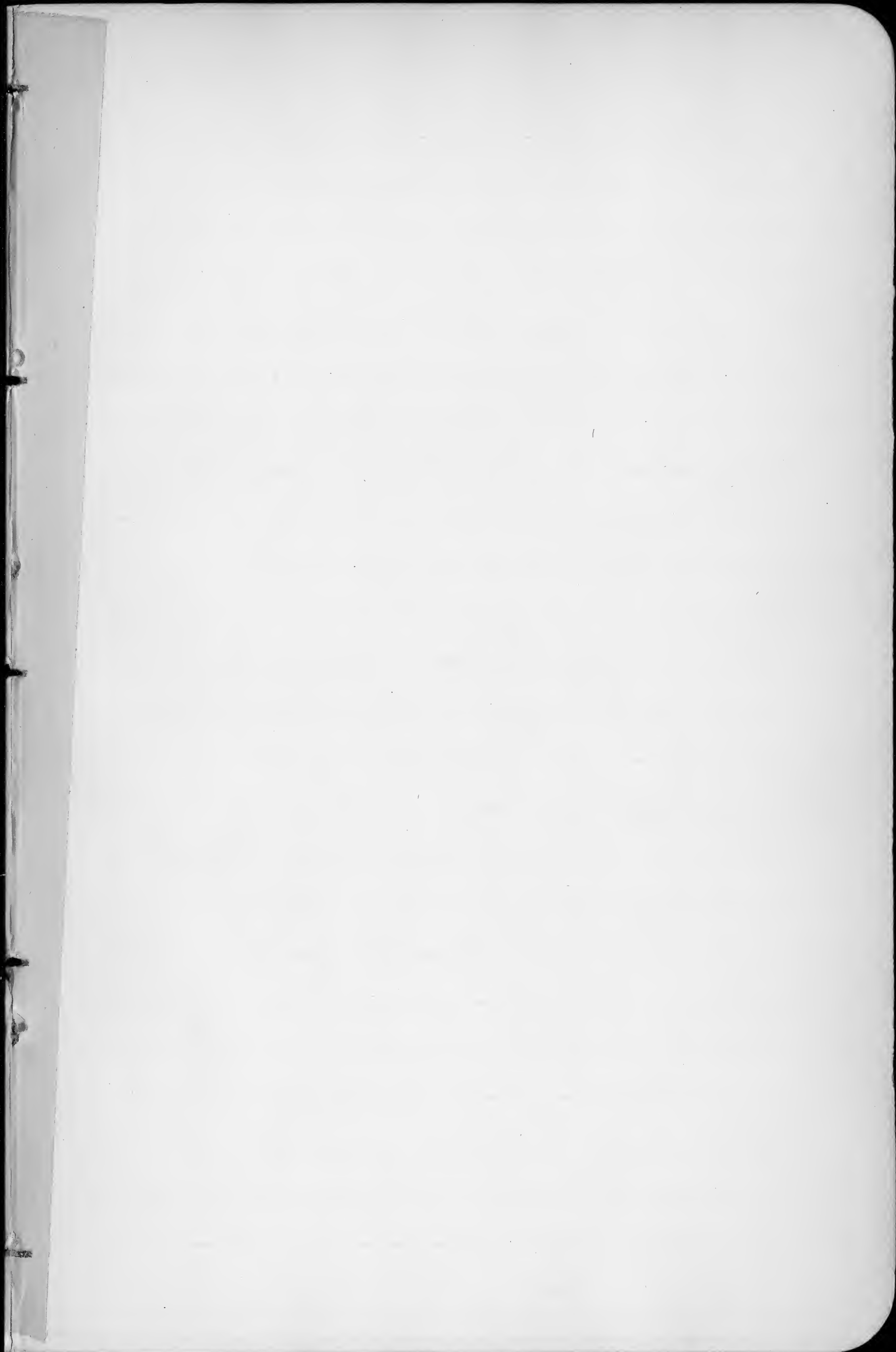
Abies amabilis

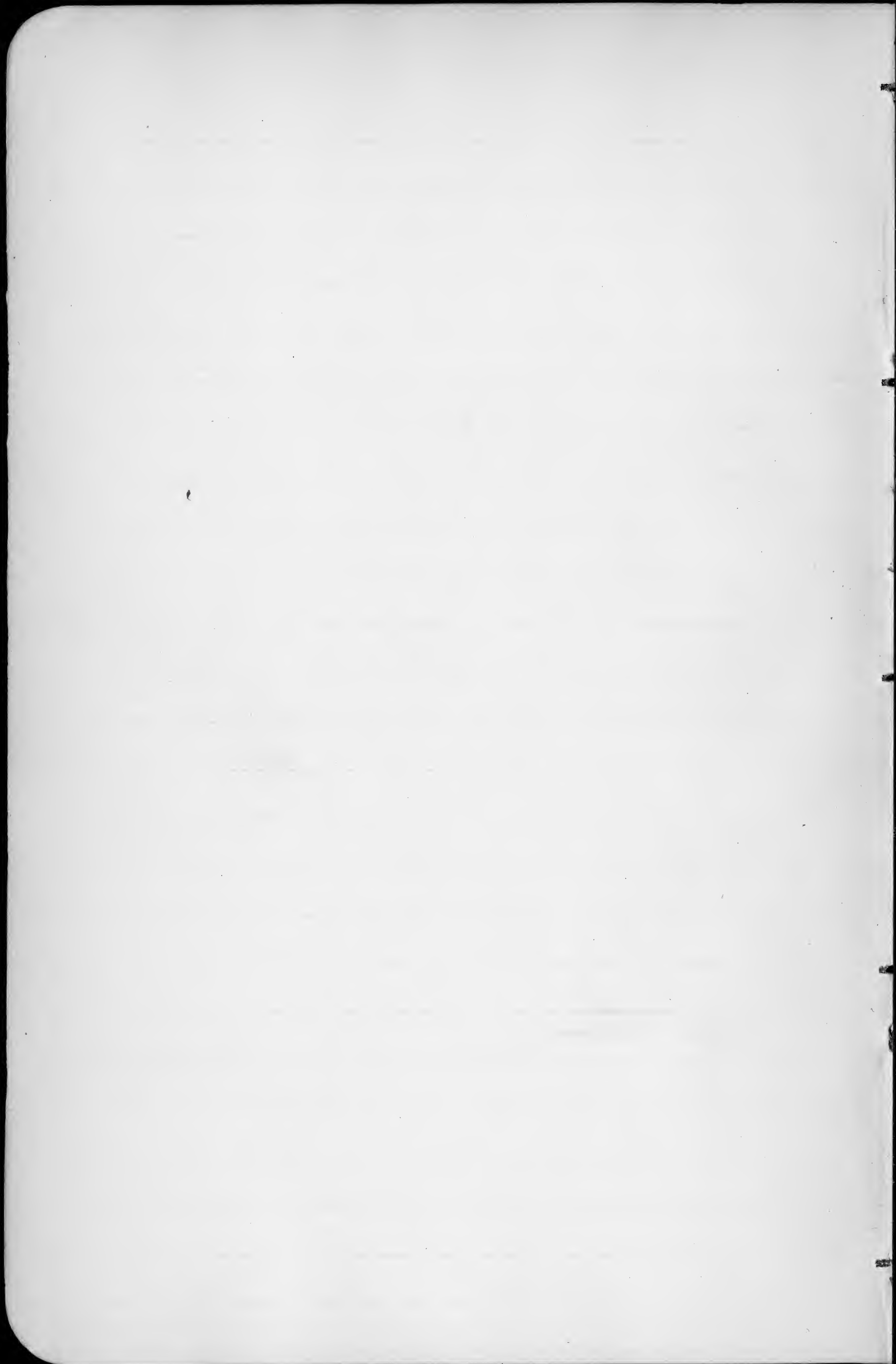
Clintonia uniflora

Erythronium, sometimes $4\frac{1}{4}$
 $3\frac{1}{2}$ inches from
tip to tip of extended petals.

Abies lasiocarpa 8 ft. $3\frac{1}{4}$ in circumference,
about 70 feet high and top broken off at
8 inches.







July 27, 1898.

Salem, Oregon.

Arrived from Portland last night. Saw Mr. Minto. This morning saw Mr. Minto and then drove over to Judge Wallis at Madray. In the afternoon drove back, saw Captain Ormsby and Mr. Davenport.

Between Madray and Salem saw the following trees and shrubs.

Quercus garryana

Pseudotsuga mucronata

Acer macrophyllum (planted?)

Salix nuttallii

Corylus californica

Rosa praecox

Rosa macrocarpa

Spiraea douglasii

Holodiscus triaefolius

Crataegus rivularis - douglasii

Lapinus oregana

Pyrus rivularis

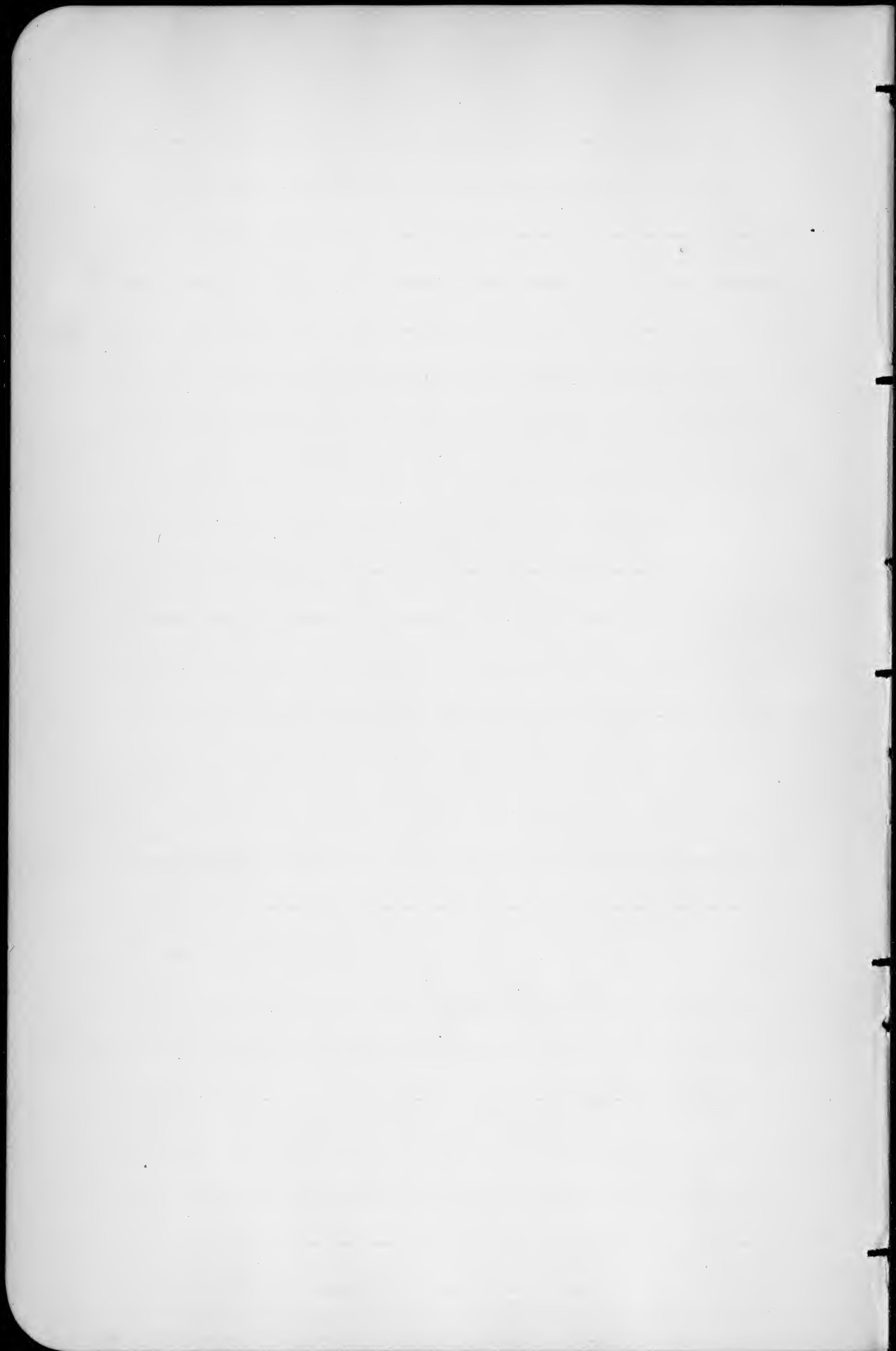
Ceanothus sanguineus, only a little

Rubus lasiococcus

.. *vitifolius*

Acer circinnatum

Amelanchier alnifolia



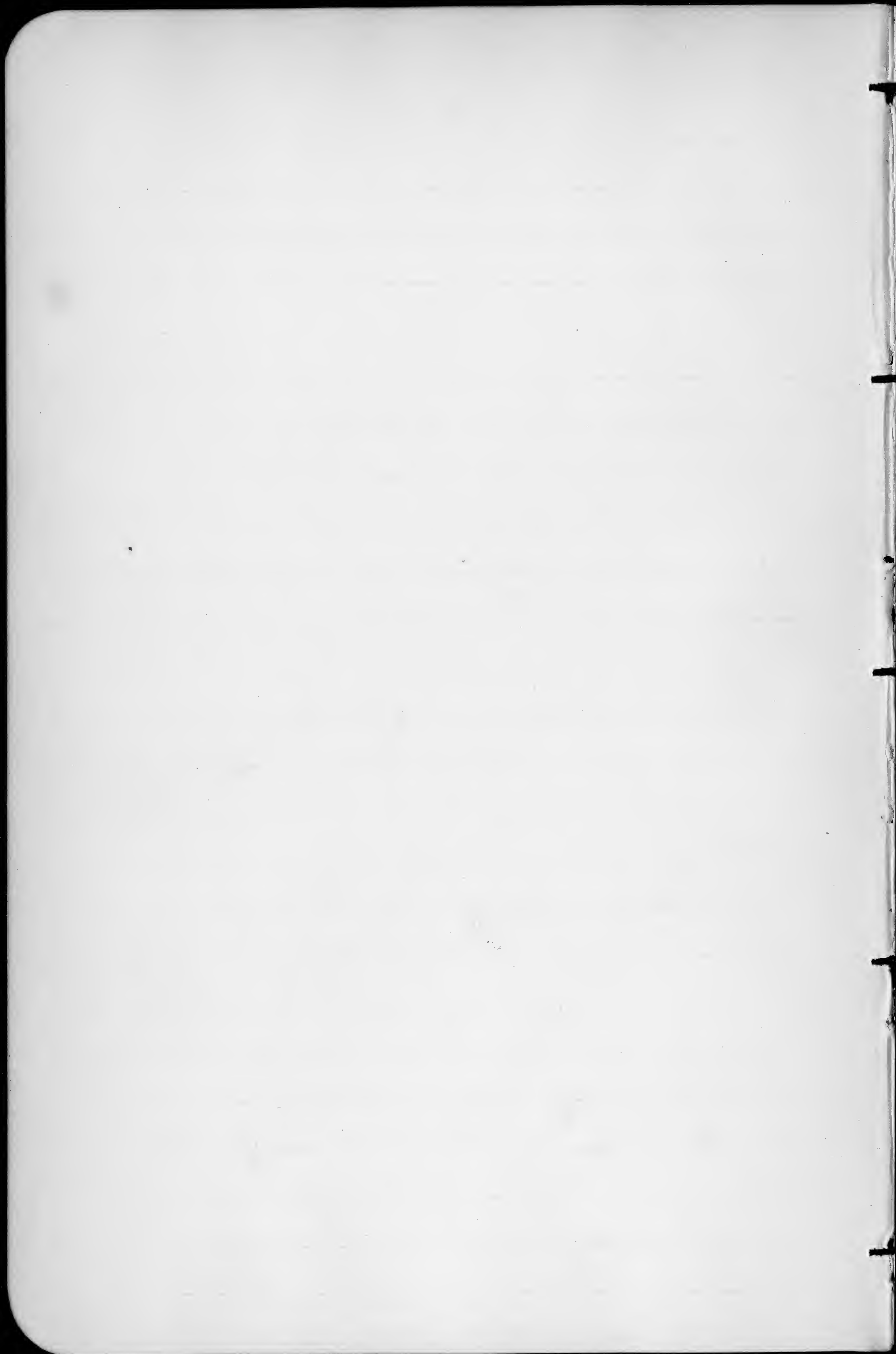
Rhamnus purshiana.

In Judge Waldo's buckberry patch, collected

Vaccinium

at Salem stopped at the Salem Hotel.

Left at night for Eugene.



July 28, 1895.
Eugene, Oregon.

Arrived late last night. Up to 3 P.M.
engaged in buying a saddle horse and a
packhorse.

The trees and shrubs seen in the vicinity
of Eugene are as follows.

Pseudotsuga mucronata, commonest tree except

Pinus ponderosa, abundant in places ^{of} _{the}

Abies grandis

Quercus garryana, most abundant tree

Acer macrophyllum

Fraxinus viridis,

Populus trichocarpa, along streams

Crataegus douglasii = *rivularis*

Salix populifolia, along streams, large tree

Oemaronia cerasiformis

Spiraea douglasii

Rhus diversiloba, abundant

Potamogeton mollis

Acer circinatum

Philadelphus lewisii

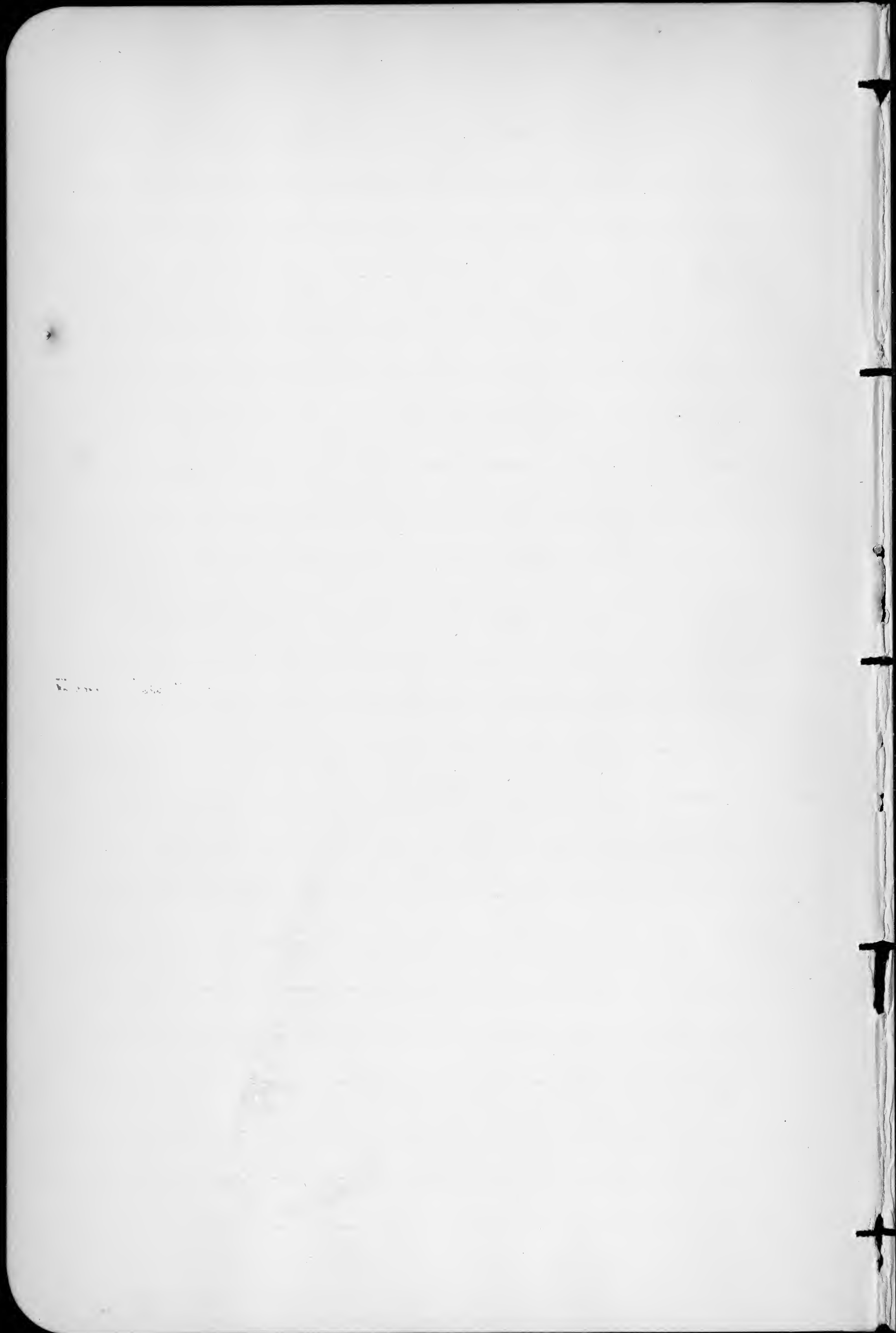
Rosa prinosarpa, abundant along roadsides.

.. *macrocarpa*, ..

Sambucus glauca

Berberis agrifolia

Rubus lasiococcus



Many dead specimens of *Eriogonum pyrolae-
folium*, their roots partially or wholly exposed.
This on pumice drift slopes, showing unu-
sual surface erosion.

At least 1000 feet above the last trees,
on an open southwest slope,
the vegetation of the lower ~~pumice~~ lava
drift slopes consisting of only

*Eriogonum pyrolae-
folium*

Juncus parryi

Spraguea umbellata, and ~~an occasional~~
~~tuft of flowerless grass~~, I found the first
Collomia debilis, collected, and not found ^{on} ~~any~~ ^{elsewhere}

Saxifraga tolmiei, collected.

809

The plant growing next highest to the above
five is

Juncoides parviflorum

The next are

Lupinus minimus

Polygonum

Agoseris

Hieracium gracile

Fragaria

Poa

Carex spectabilis Dewey

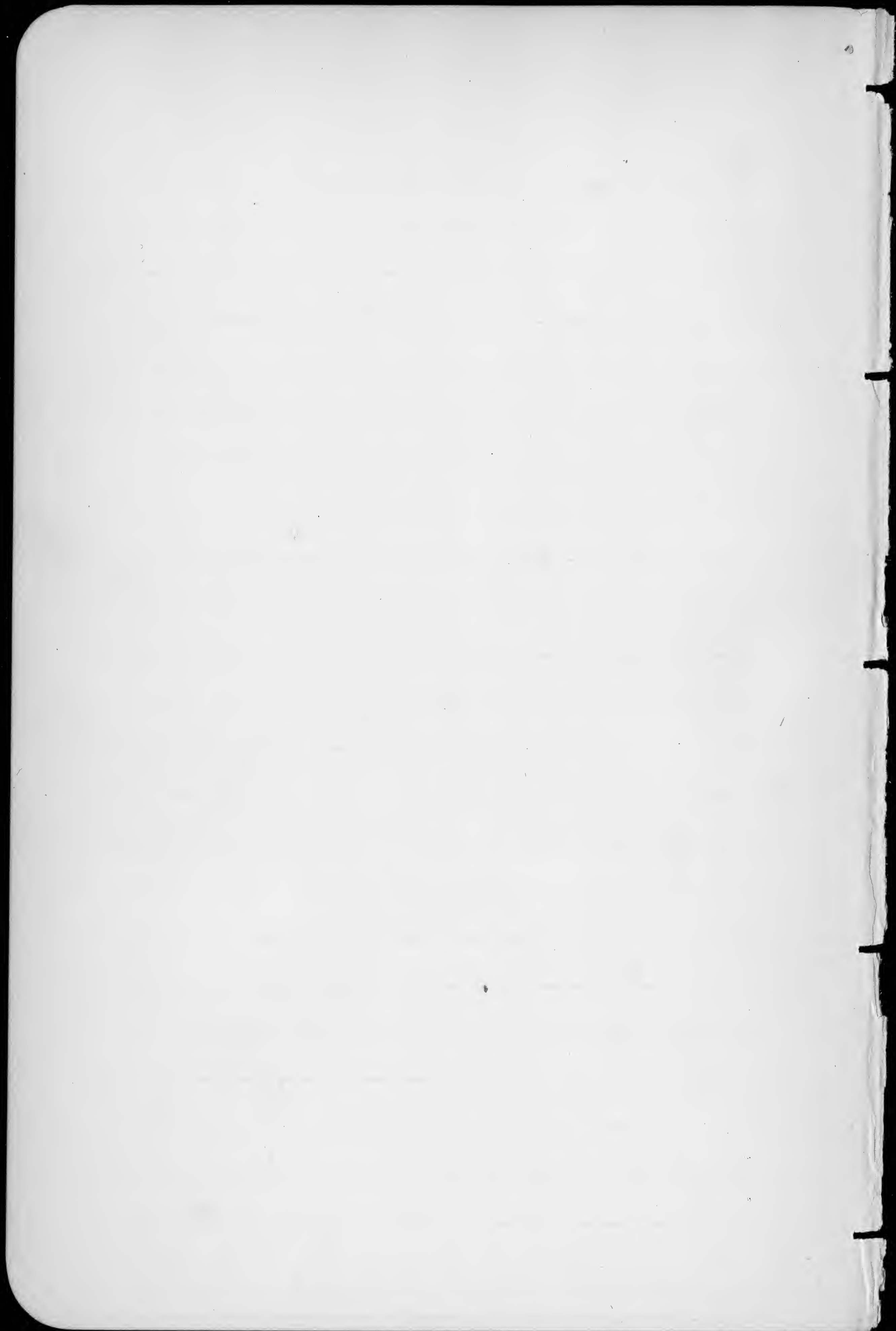
collected July 20
to-day

823

Carex alpina

Pentstemon

menziesii-like



Rubus vitifolius, probably.
Holodiscus aricaefolius
Ceanothus sanguineus
Salix nuttallii
Corylus californica, very common
Ribes sanguineum
Rosa gymnocarpa
Rhamnus purshiana
Amelanchier alnifolia
Ribes atropurpureum
Cornus sanguinea?
Salix velutina
" *discoloroides*?, probably *S. nuttallii* & something else
Symphoricarpos
Pyrus rivularis
Ceanothus cuneatus

Amos D. Hyland, two dozen copies of the first notice

July 29, 1895.

Probably not 100 feet above Eugene, Oregon.

Set out for the mountains this morning.

Stopped at Mr. Highlands, twenty miles.

Saw additional to trees and shrubs
of yesterday

Opulaster

Alnus oblongifolia

Prunus demissa

Lipocedrus decurrens

at and near the cemetery at Pleasant Hill
Arbutus menziesii

Cytisus scoparius, escaped from the cemetery.

At the Trent sawmills, four miles below Mr. Highlands
Ribes lobbiai

At the crossing of the Willamette, about a
mile below Mr. Highlands

Thuja plicata

Cornus nuttallii

Taxus brevifolia

Alnus argentea

Gastrophysa polyphylla, 4 in. x 12 ft.

Saultheria shallon

South slope of hills at Mr. Highlands partly
bare, with scattered oaks and Douglas spruce,
north slope densely wooded with conifers prin-
cipally Douglas spruce.

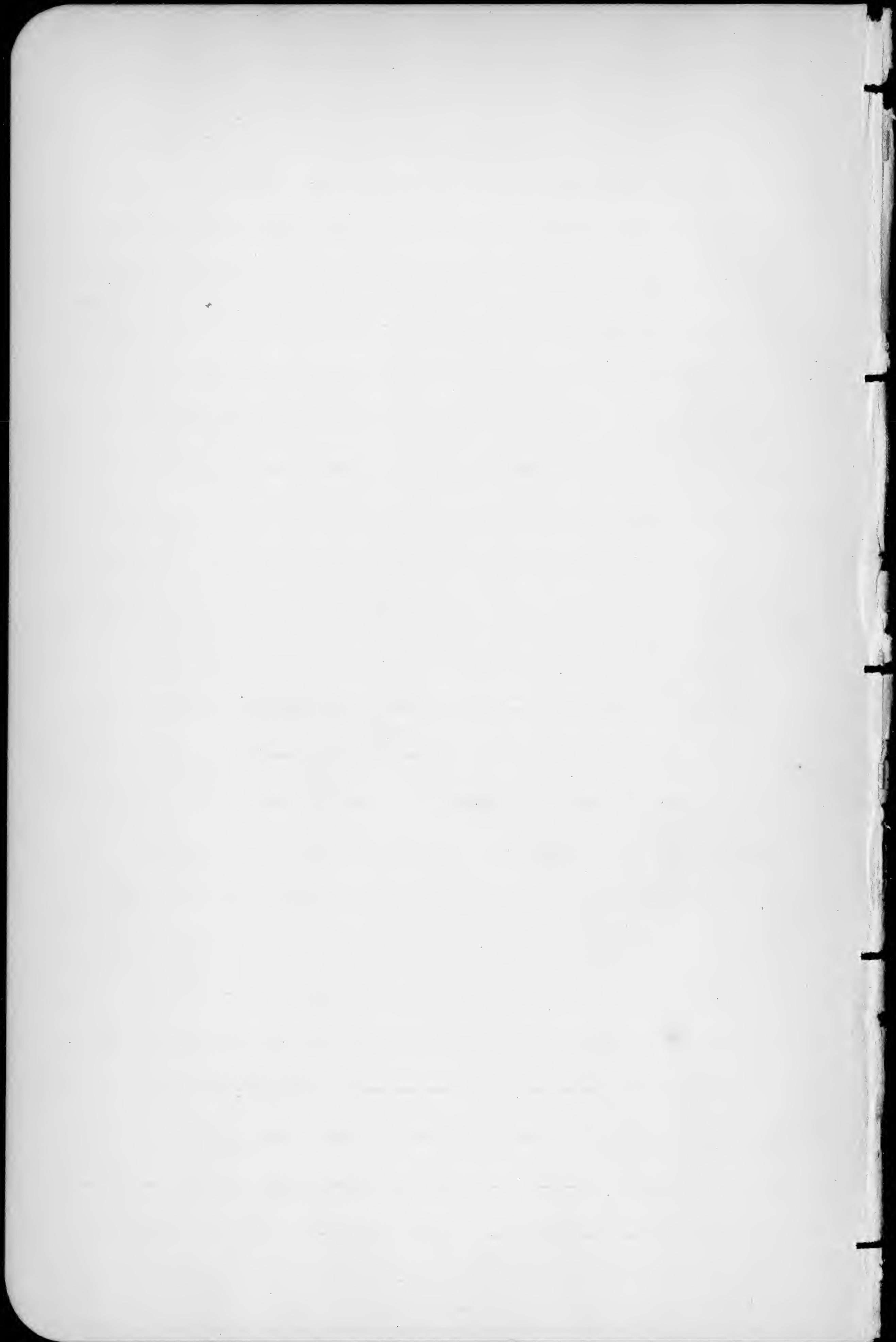
The sleet brakes occur on old burns where the area has been again seeded to timber, mostly red fir, very closely. The trees may be 100 or even 200 feet high after ¹⁰, 15 or 20 years. Areas of many acres, being very close, very slender, and very tall, after becoming weighted with snow and sleet in winter, begin to lean and finally with additional snow the whole mass goes down gradually. Make no loud noise. Common all about. Only on slopes, and always fall down hill, trees all killed.

Detroit, Oregon, Aug. 26, 1898.

Came down to this place from Funt's Cove to-day passing Permelia Lake at 4100 feet and striking the Minto Trail at about 2500 ft.

~~Detroit~~ Near Gates, Oreg., Aug. 27, 1898.

Came down from Detroit to-day, and camped at Mr. Henness, about a mile from Gates. Expect to start for Portland by rail to-morrow.



July 30, 1898.

Hazeldell, Lane Co. Oregon
Left ^{elevation probably not over 1500 feet.} Mr. Hylands in the morning and
stopped for lunch at Blakeley's (now occupied by
Mr. Wilhelm), 12 miles. In the afternoon
went on to Hazeldell post-office, 14 miles further.
Found the two Applegatis there awaiting me.

In the forenoon saw the following trees
and shrubs.

- ✓ *Pseudotsuga mucronata*
- ✓ *Thuja plicata*
- ✓ *Pinus ponderosa*, very little
- ✓ *Larodendron decurrens*
- ✓ *Acer macrophyllum*
- ✓ *Taxus brevifolia*
- ✓ *Prunus virginiana*
- ✓ *Quercus garryana*
- ✓ *Arbutus menziesii*, 12 to 16 in. diam. ^{uncommon} 30 to 40 ft high not
- ✓ *Salix populifolia*, along the river only
- ✓ *Populus trichocarpa*, in the bottoms
- ✓ *Rhamnus purshiana*
- ✓ *Crataegus rivularis*
- ✓ *Abies grandis*
- ✓ *Prunus mollis*
- ✓ *Castanopsis chrysophylla*
- ✓ *Alnus argana*
- ✓ .. *oblongifolia*
- ✓ *Cornus nuttallii*
- ✓ *Salix nuttallii*
- ✓ *Sambucus glauca*

Cytisus scoparius, escaped

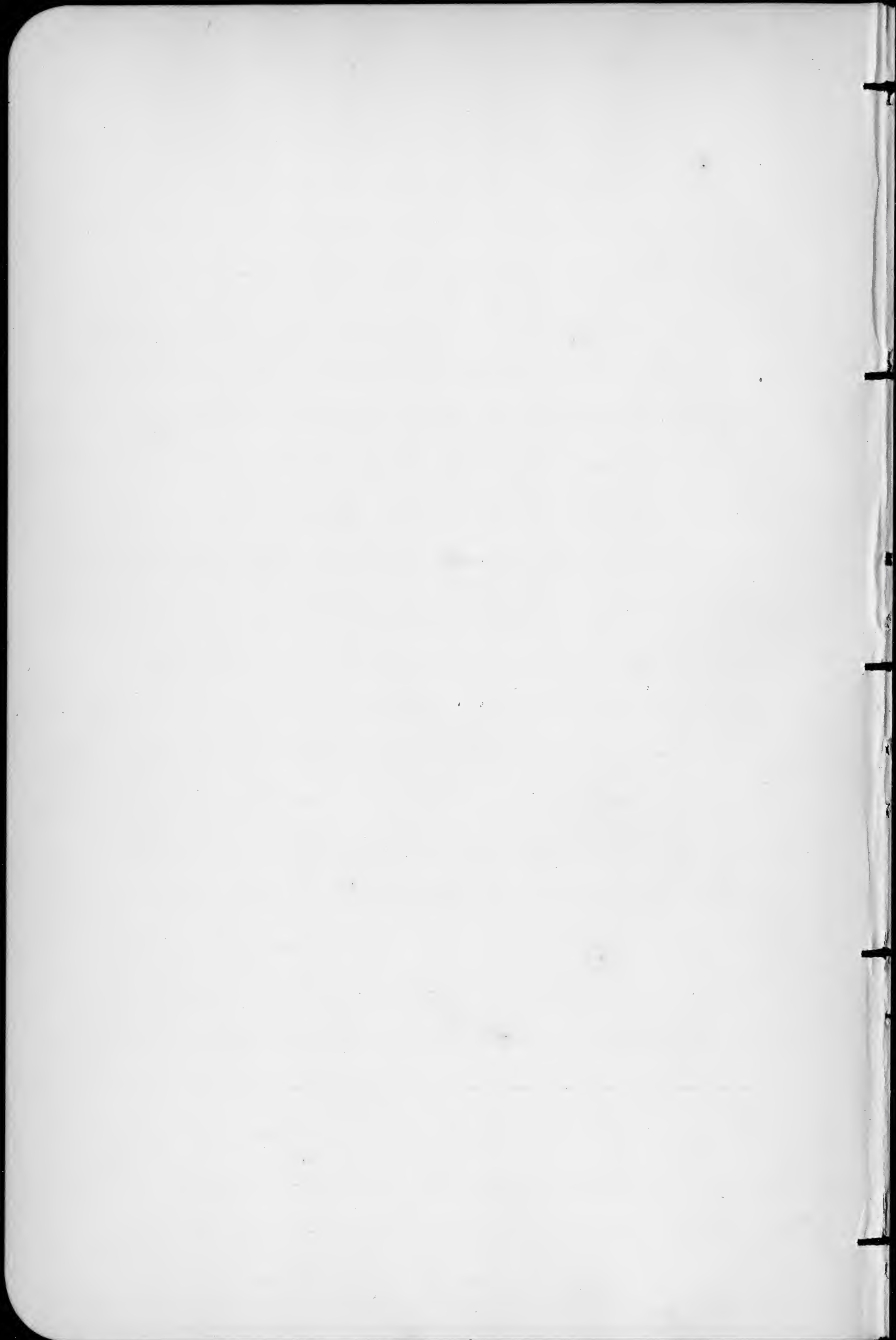
✓ *Ribes lobbi*

✓ *Gaultheria shallon*, abundant.

✓ *Lonicera rosea*

.. *hispida*

- ✓ *Osmaronia cerasiformis*
- ✓ *Rhus diversiloba*, 30 to 50 ft high on *Pseudotsuga*
- ✓ *Acer circinnatum*
- ✓ *Philadelphus lewisii*
- Rosa macrocarpa*
- ✓ " *gymnocarpa*
- ✓ *Berberis aquifolium*
- ✓ *Rubus lasiococcus*
- ✓ " *vitifolius*
- ✓ *Holodiscus ariaefolius*
- Ceanothus sanguineus*
- ✓ " *integerrimus*
- ✓ *Vaccinium parvifolium*
- ✓ *Rubus parviflorus*
- ✓ " *sempervirens*, ^{Just beginning to fruit} escaped from cultivation
- Robinia pseudacacia*, one tree by the roadside, ^{Escaped.}
- ✓ *Tsuga heterophylla*, occasional
- ✓ *Ceanothus velutinus*
- ✓ *Corylus californica*, the most abundant underbrush
- ✓ *Ribes sanguineum*
- ✓ *Amelanchier alnifolia*
- Ribes atripes*
- ✓ *Salix velutinus*
- ✓ *Symphoricarpos*
 ~~decolor~~
- ✓ *Opulaster*



July 31, 1895.

Haydell, Lane Co., Oregon.

Stayed in camp in the morning. Went down to Mr. McClane's in the afternoon.

Aug. 1, 1895

High Prairie camp.

Went from Haydell up to Kiteon Spring in the forenoon, 6 miles and return.

In the afternoon broke camp and started for Grasshopper Mountain, camping at the east end of High Prairie, 8 miles.

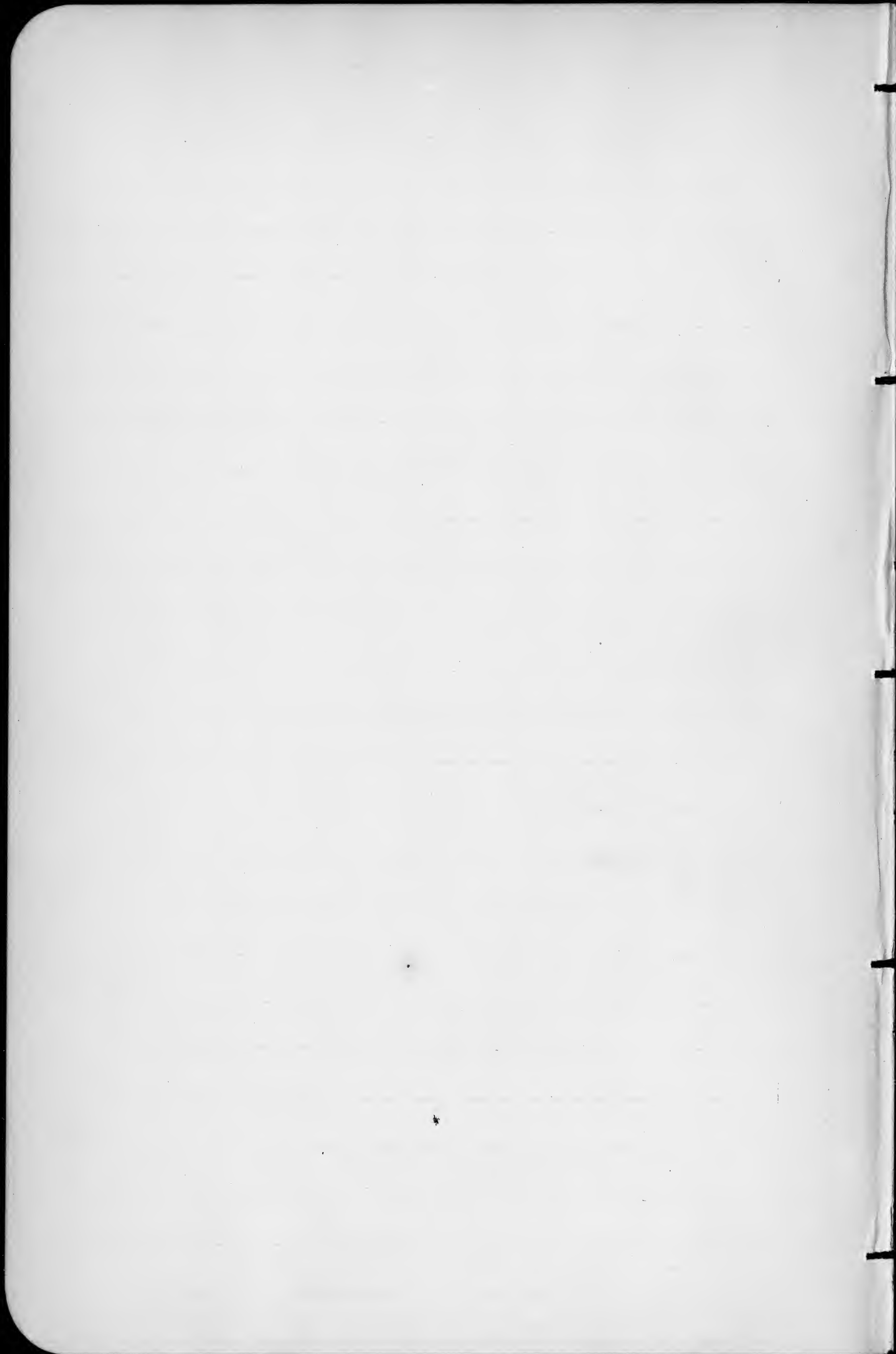
Elevation of High Prairie about 2500 feet

~~Lowell Camp~~ Brocks Meadow. August 2, 1895.

Went from High Prairie over into the North Fork (of the Middle Fork of the Willamette) valley and camped at Lowell Camp, foot of Grasshopper Mountain. Varied in elevation from about 2500 feet at High Prairie to 3000 feet at the Divide, and 2500 feet at Lowell Camp. Traveled about 18 miles.

~~Lowell Camp~~ Brocks Meadow, Aug. 3, 1895.

Went up Grasshopper Mountain and return, about 8 miles. First treeless ridge 3500 ft, lower edge of the bald 4500 feet, summit of the bald 5500 ft.



Aug. 4, 1898.
~~Brook Meadows~~
~~Lowell Camp~~ (by proxy).

Traveled about 8 miles up the North Fork bottom and return, reaching an elevation of about 2800 feet. I myself stayed all night at a deer lick.

Grasshopper Mountain, Aug. 5.

Came up from camp to the mountain this morning, about 3 miles. Made a trip on foot over the east to the north slope.

Camp two miles west of Injun Meadows, August 6.
Came over from Grasshopper Mountain to-day, about 12 miles. Gap between Grasshopper Mountain
Box Canyon ³⁸⁰⁰ feet. Chocksey Mountain ⁴⁰⁰⁰ feet. Chock-
~~sey~~ ~~Swamp~~ ^{Swamp} 3800 feet. Injun Meadows 4800
feet.

Moved over to this place and Injun Meadows, August 7.
Stayed near camp all day, botanizing and writing up notes.

J. C. Brattain

Brock Meadow, August 8, 1898.

Reached this place from Durin Meadows to-day, about 17 miles.

High Prairie, August 9, 1898.

Reached this place from Brock Meadow to-day, about 18 miles.

Lowell (Hylands) August 10, 1898.

Reached this place from High Prairie to-day, about 30 miles.

Springfield, August 11, 1898.

Reached this place from Lowell to-day, about 15 miles, and camped at Mr. Bratton's farm, about half a mile east of the city.

Springfield, August 12, 1898.

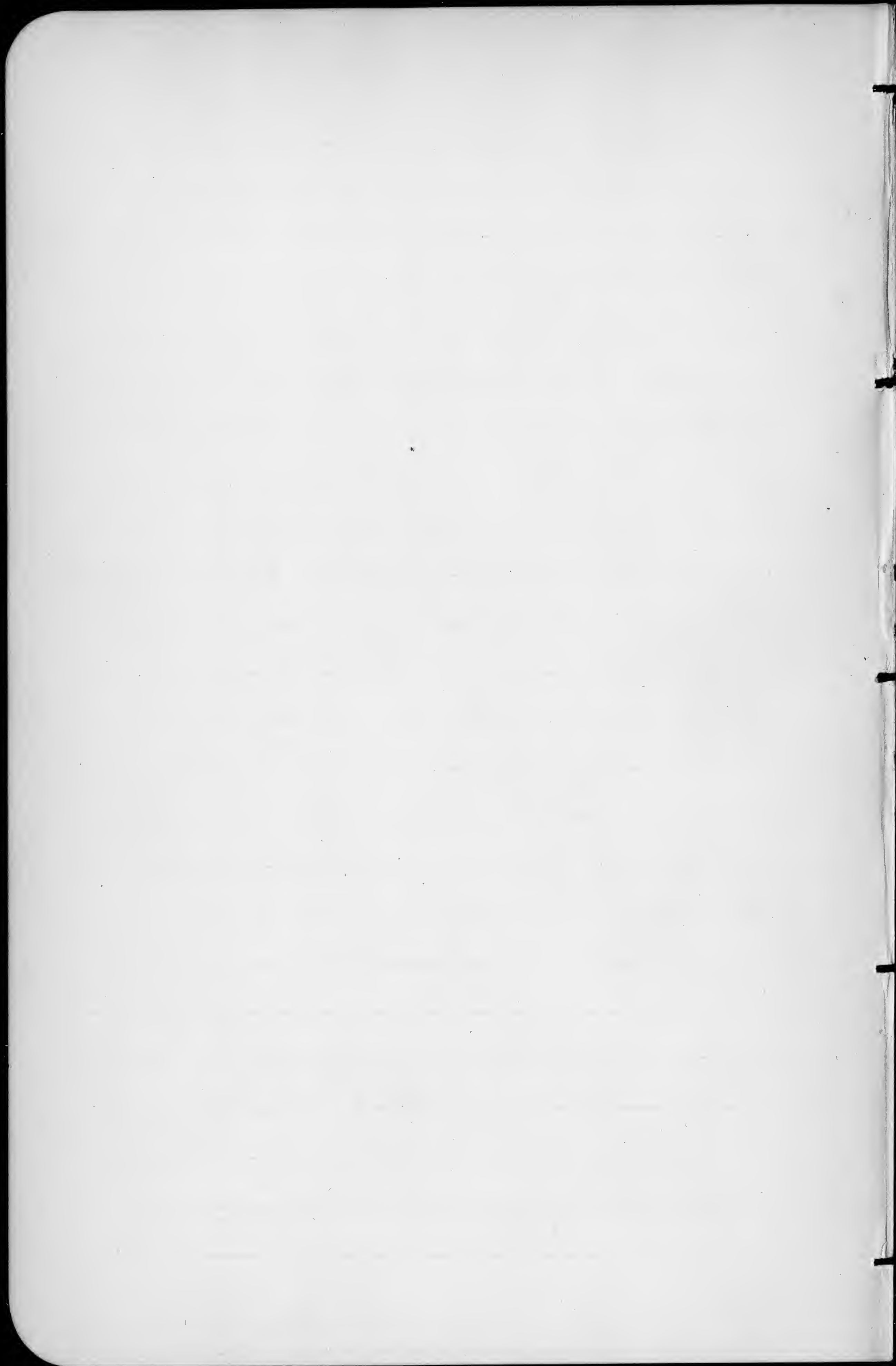
Spent the day purchasing horses.

Springfield, August 13, 1898.

Spent the day completing preparations for our start.

Anderson Station, Oreg. August 14, 1898.

Left Springfield at 2 P. M. and came to this point, 16 miles.



Wychoff Station, Aug. 15, 1895.

Reached this point from Anderson Station to-day, 20 miles.

Foley Springs, Aug. 16, 1895.

Came from Wychoff Station to-day, about 20 miles.

Foley Springs ^{Oreg} Aug. 17, 1895.

Ascended the mountain back of Foley Springs, following the ridge east of the trail on the way up, the trail coming down. Foley Springs 1600 feet. Change from Douglas spruce to black hemlock 4000 to 4500 feet. Summit of mountain (Horse Pasture) 5500 ft.

Lost River Station (Ward's ranch) Oreg. Aug. 18, 1895.

Came up from Foley Springs in the afternoon, about 14 miles. Met Mr. A. S. Powers of McKenzie Bridge. Lost River Station about 2500 ft.

Cold Spring, Crook Co. Oreg, Aug. 19, 1895.

Reached here from Lost River Station to-day, 27 miles. Black hemlocks ^{4000 to} 4500; shoulder of summit 4700; summit 5000. Cold Spring 3400.

In Clear Lake trees measured respectively 35 feet, the top ending 6 ft. below the surface; and 34 feet, the top ending $1\frac{1}{2}$ feet below the surface. Stumps on the sand beach measured 18 inches, with 130 annual rings; and $27\frac{1}{2}$ inches, with 243 rings. No erect stumps above surface. Besides plants collected and noted ~~in~~ sheets, Spirogyra formed bright green mats in smaller or larger areas on the bottom.

Graham's ranch

Aug. 20, 1898.

Went from Cold Spring to Sisters P.O., and then up to Graham's, about 11 miles.

Fish Lake

August 21, 1898.

Came over from Graham's to Fish Lake, 24 miles, lunching at Big Lake. Graham's 3400 feet. Pinus murrayana coming in at 3800, black hemlock and blue fir at 4200. Summit about 4500. Beginning of solid Pseudotsuga on west slope 4000. Yellow pines occasional at 3700. Fish Lake 3400.

August 22, 1898

Hensley Meadows,

In the morning went to Clear Lake $2\frac{1}{2}$ miles, and return.

In the afternoon went from Fish Lake to this point, accompanied by Mr. E. Hennes, Bates, Oreg. Distance in afternoon 12 miles. At 3800 feet passed through a dry area covered by Pinus murrayana, but at the same elevation struck into the magnificent heavy forest again.

Elevation of Hensley Meadows 3700.

The Metolias Trail, an old trail, originally an Indian trail, connecting the Indian settlements on the Warm Springs Indian Reservation with the Winto Trail at a point near the west end of Marion Lake. It is now partly blazed, ^{and is considerably used by sheepmen and others} ^{in addition to the Indians} ~~the~~ trail ~~crosses~~ the Cascade divide about five miles south of Mount Jefferson, at an elevation of about 6000 feet.

Ann Lake

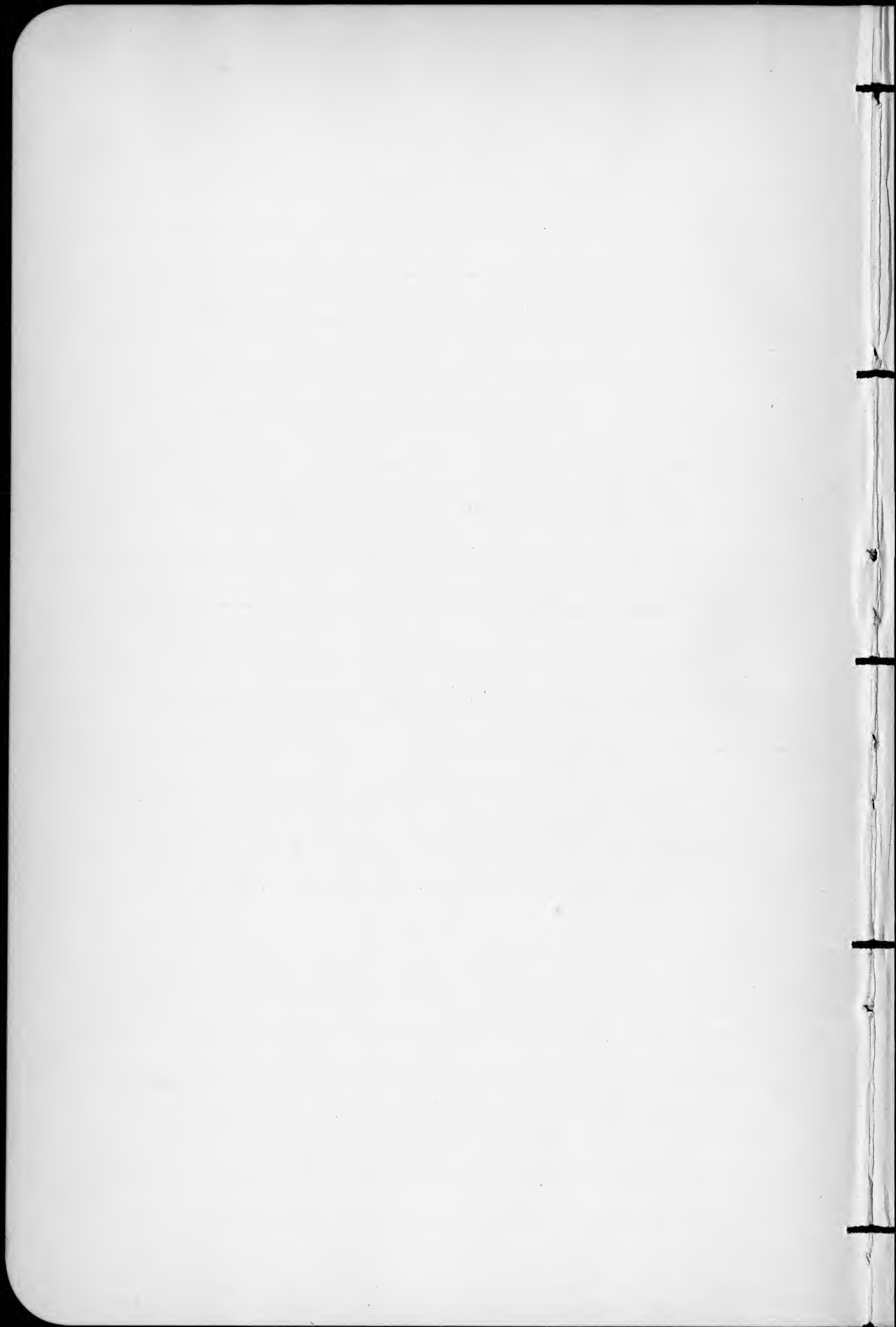
Aug. 23.

Came through the woods without trail from Hensley Meadows and struck the Minto Trail on the south margin of the Lake. Distance about 12 miles. Most of the journey through lodgepole pine mixed with black hemlock and silver pine. Elevation of Ann Lake 7100 feet.

Point on Metolias Trail, about 1/2 mile west of summit, Aug 24, 1898.

In the forenoon started out eastward on the Minto Trail and just before reaching Marion Lake took the left hand trail. Up to 5500 ft, Pinus murrayana with Tsuga mertensiana, Pinus monticola, Abies lasiocarpa, and A. amabilis, with occasional A. nobilis, and Pinus albicaulis. Above on sheltered west slopes, where snow was evidently heavy, P. murrayana disappeared, and Tsuga mertensiana became more abundant. At our nooning-place, 5800 ft., the forest consisted of black hemlock with considerable Abies amabilis, with an underbrush of Vaccinium cushitoides, Cassiope, Phyllodoce empetrifolia, Sorbus parvifolia, Vaccinium membranaceum, and a great abundance of Luethera.

In the afternoon looked over the country to the



north along the Cascade divide as far as Hunt's Cove and return, on foot. About 6 miles by horse

Hunt's Cove, Marion County, Oreg., Aug. 25, 1898.

Came over to this point, about 4 miles, to-day, and camped at the uppermost meadow watered by springs. Examined the lateral divides to the westward, overlooking Bingham Basin and Grizzly Basin, Minto Mountain lying between. The timber on all these divides is badly burned, probably three-fourths being gone.

Hunt's Cove, August 26, 1898.

Made the ascent of Mount Jefferson to-day. Elevation of camp 5500 ft. The timber up the lower slopes of Mount Jefferson consists chiefly of Tsuga mertensiana, with some Abies amabilis, and an occasional Abies lasiocarpa. At 7000 feet Tsuga mertensiana ceased, the remaining trees being Pinus albicaulis and Abies lasiocarpa.

The plants above this point were.

Juncus nana

Lupinus

Polygonum newberryi?

Pseudanemone martinicensis

Luethia pectinata.

Above timberline occurred those marked with a
✓ (list incomplete).

Above 9000 feet occurred

Hulsea nana

Saxifraga tolmiei

Oxyria digyna

Summit of the mountain below the ~~sap~~ rock, which
was not climbed 10200 feet.

Eriogonum pyrrolaeifolium

Sitanion sitanion

Phyllodoce empetrifolia

.. *glanduliflora*.

Antennaria

Poa

Juncoides glabrata

Vaccinium scoparium

✓ *Pentstemon davidsonii*.

Carex tenuispicata

✓ *Carex breweri*.

✓ *Saxifraga tolmiei*

✓ *Hulsea*

✓ *Oxyria digyna*.

Trisetum

Cardamine pachyphylla.

Eriogonum, small, shrubby, yellow.

Juncus parryi.

Aster (prostratus)

Vaccinium (cespitoides)

Juncoides parviflorum

Spraguea umbellata

Hieracium gracile

Juncus subtriflorus

Timberline was at 8100 feet, the trees consisting of *Pinus albicaulis*.

Hood in Hunt's Cove, D. W. Shafer, Sisters, Ore.

Kent Lumber Manufacturing Company. Handle mostly "fir" (Douglas spruce), ^{some} "red cedar", (*Thuja plicata*), "white cedar" (*Larix laricina*), oak, maple, ash; no yellow pine, dogwood, nor alder.

Mill capacity 20,000 per day; yearly cut about 2,000,000 ft. board.

First cause of fire is carelessness of campers, including travelers and hunters. From "slashing brush", in making clearings.

"Sheet breaks" of the "fir" trees. ~~Often~~ Sometimes burned for clearings. Make "awfullest" fires. Trees 200 ft. high, many acres go down.

Lumbering operations. Brush accidentally fired after timber is cut.

Fires chiefly on south sides of hills. Indians fired the foot-hills up to the year . The fire burned chiefly the south slopes and kept the timber back. Now coming in thick, mostly "red fir", a little white fir, some a hundred feet high.

Elmer I. Applegate.
Fred L. Applegate.

In the afternoon saw those checked thus ✓,
with the following additional

Arctostaphylos , one at Hazeldell ^{covered} bridge

Rhododendron californicum

Ribes menziesii

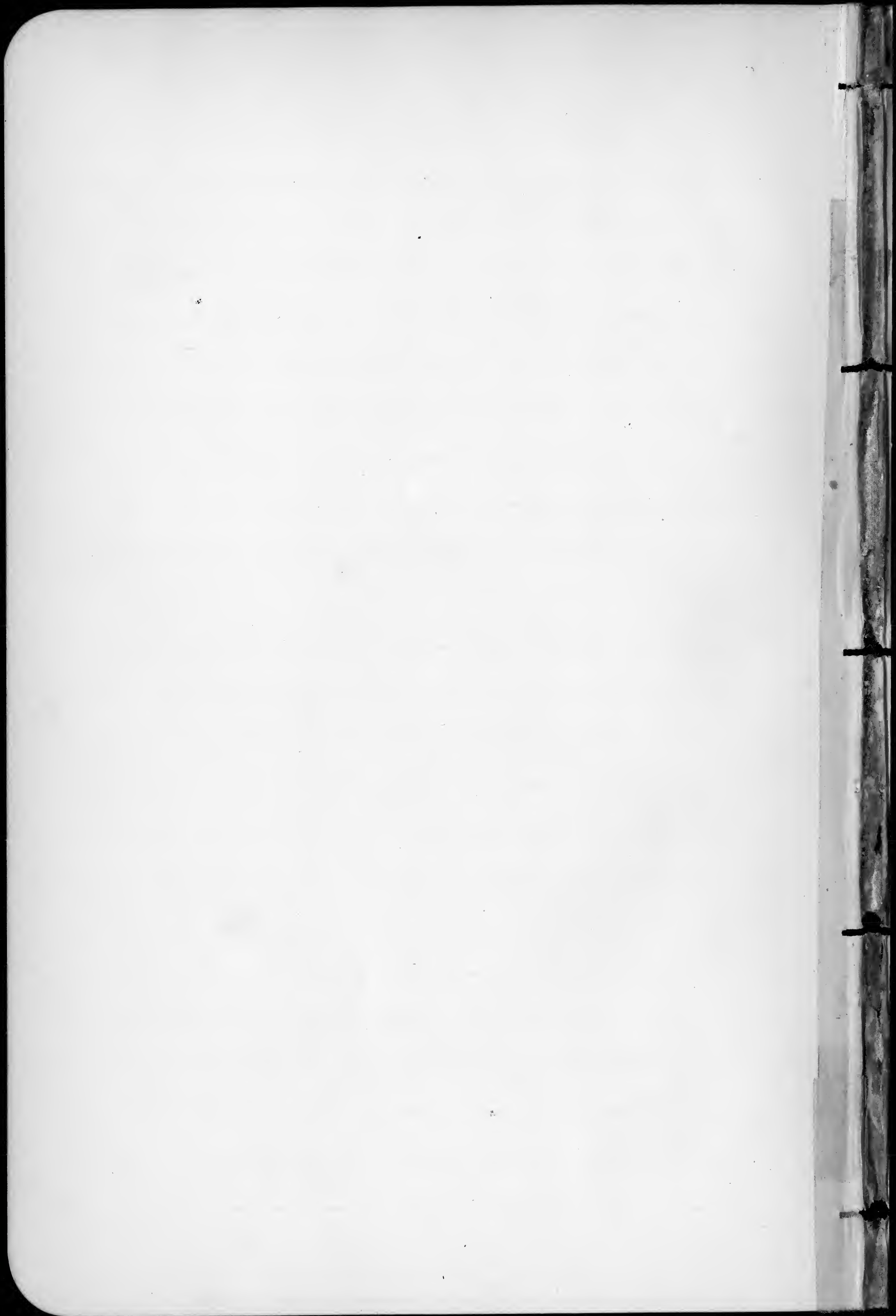
Ceanothus cuneatus, one shrub seen.

Spiraea douglasii

Salix discoloroides, as at Lake Merrill

Pinus ponderosa was found only in the vicinity
of Hazeldell, with great quantities of *Juniperus garryana*,
on and about the bald south slopes.

Pachystima myrsinites was probably seen in one place



Hood River, Sept. 5, 1895.

Came up from Portland by rail to-day, arriving about eleven o'clock. In the afternoon took a short tramp near town with the Hon. E. L. Smith. Along the river bottoms are

Populus trichocarpa

Crataegus douglasii.

Salix populifolia

Pseudotsuga mucronata.

Salix fluviatilis

Fraxinus viridis

On the slopes, which are partly open, are

Quercus garryana

Pinus ponderosa

Salix mitchellii

Rhus diversiloba

Kunzia tridentata.

Amelanchier alnifolia

Philadelphus lewisii

Symphoricarpos

Corylus californica

Rosa

Berberis aquifolium.

Holodiscus arborescens.

Rubus vitifolius.

Prunus mollis, as well as

Crataegus douglasii.

Above the black hemlock ^{and blue fir} timber on Mount Hood found the following:

a.t. = above timber-line

Pinus albicaulis
Juniperus nana
Peucedanum matindalei
Encyphalus
Polemonium
Polygonum davisiae
Eriogonum umbellatum a.t.
Senecio triangularis
Chrysothamnus bloomeri
Phlox douglasii
Trisetum subspicatum
Carex breweri
alpina
Achillea millefolium a.t.
Lonicera involucrata
Spiraea umbellata a.t.
Poa
Phacelia a.t.
Pentstemon davidsonii a.t.
Sitanion a.t.

Sorbus occidentalis
subtriflorus
metensis
Mimulus lewisii
Solidago
Lupinus lyallii a.t.
Artemisia
Aster procumbens
Silene a.t.
Carex missillata
Festuca a.t.
Saxifraga tolmieri a.t.

In the upper edge of *Pinus albicaulis* on the southeast slope were
Juniperus parryi
Colochortus nana
Antennaria alpina
Agrostis
Carex oxyura

Cloud Cap Inn, Oregon Sept. 6, 1898.

Camp up from Hood River to-day with Miss Florence Merriam and Mr. A. J. Johnson.

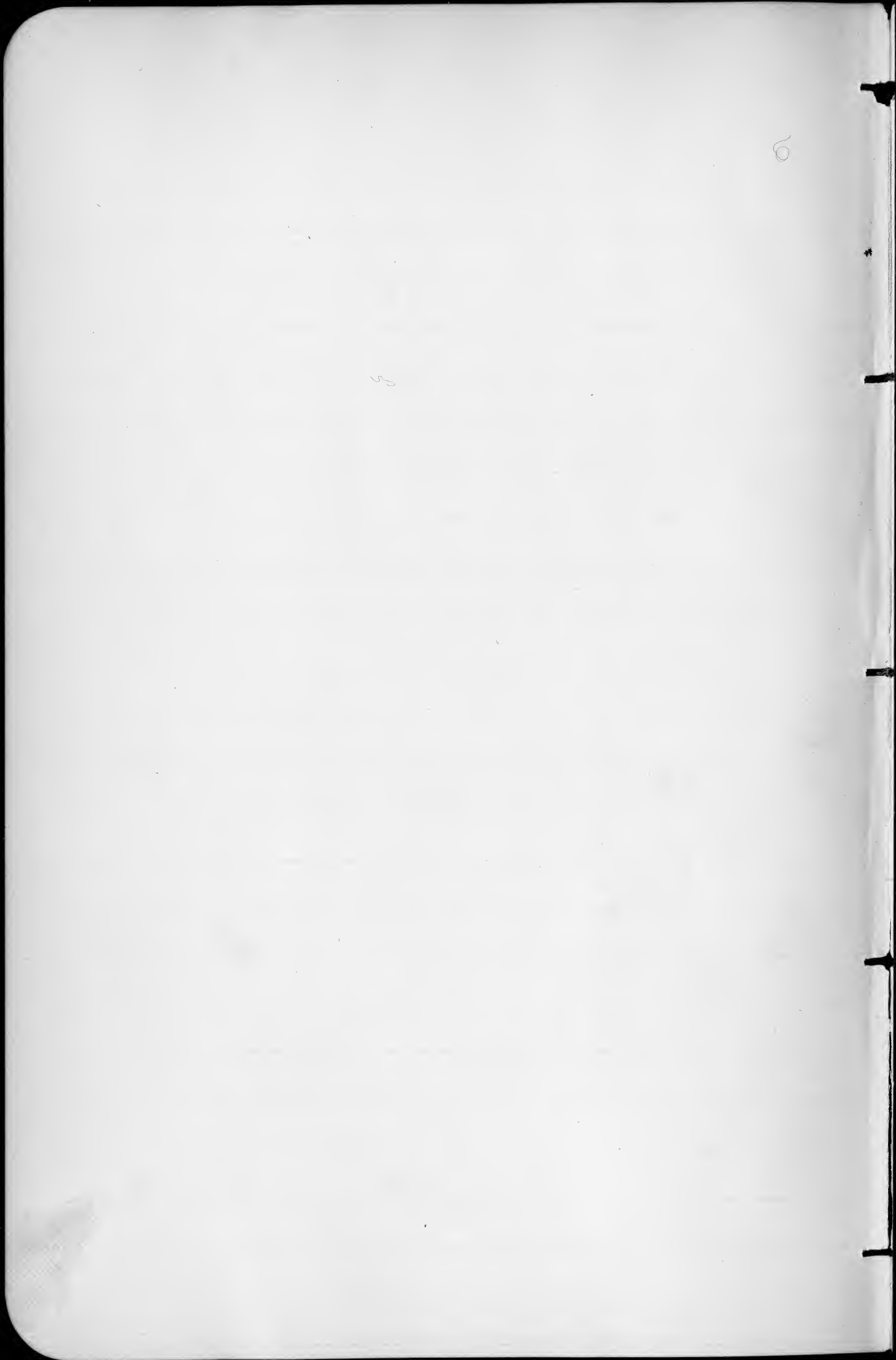
Country badly burned, one fire now burning east of the East Fork.

At about 4000 feet Douglas fir forest changed to *Pinus murrayana*, ~~which~~ with a mixture, varying in abundance, of *Abies concolor*, *Abies amabilis*, *Tsuga* ~~sp.~~ *mertensiana* and other trees mentioned in notes. At about 5500 forest changed to a growth of principally black hemlock, and at about 6000? to a growth principally of white-barked pine.

White River bottom, Oregon, Sept. 7, 1898.

With Douglas Langille climbed the Cooper Spur of Mount Hood, crossed the East Fork glacier, descended the ridge between the waters of Hood River and White River, descended the Hood River side of the forested divide between the two rivers, crossed over this divide to the sandy bottom of ~~White River~~ and ~~then~~ traveled down the bottom to a forest fire about a mile below the point where the river turns to the south. Here we camped in the woods, surrounded by the forest fire.

Readings	
Cloud Cap Inn	6000
Timberline N.E.	7100
" S.E.	7350
Camp.	4000



Government Camp, Mt. Hood, Oreg., Sept. 8, 1898.

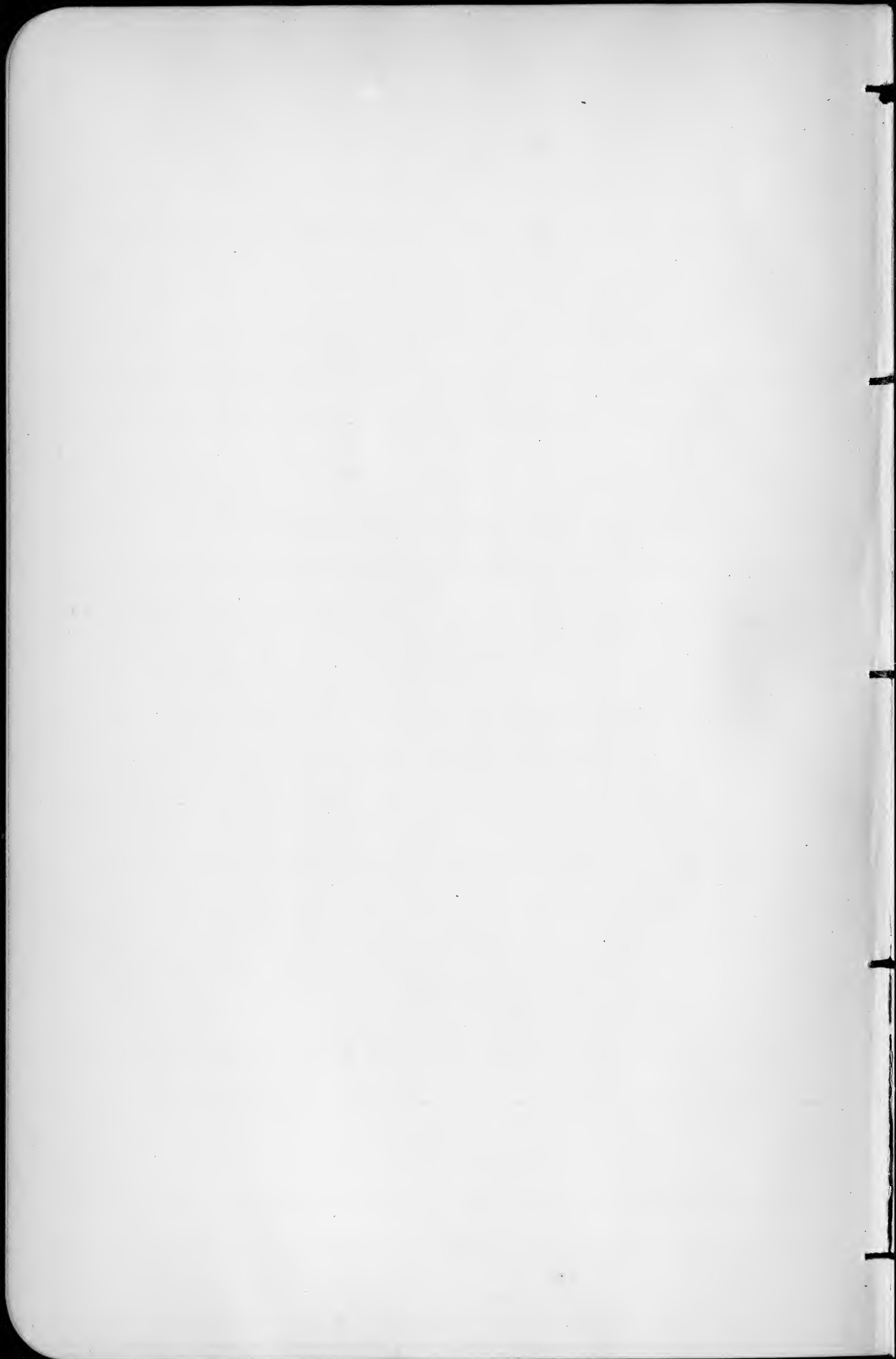
Came up White River bottom on the old Indian trail, crossed the ridge between White River and Salmon River at about timber line, descended the road to Summit Prairie, and then went ~~back~~ over the old Barlow Road to Government Camp.

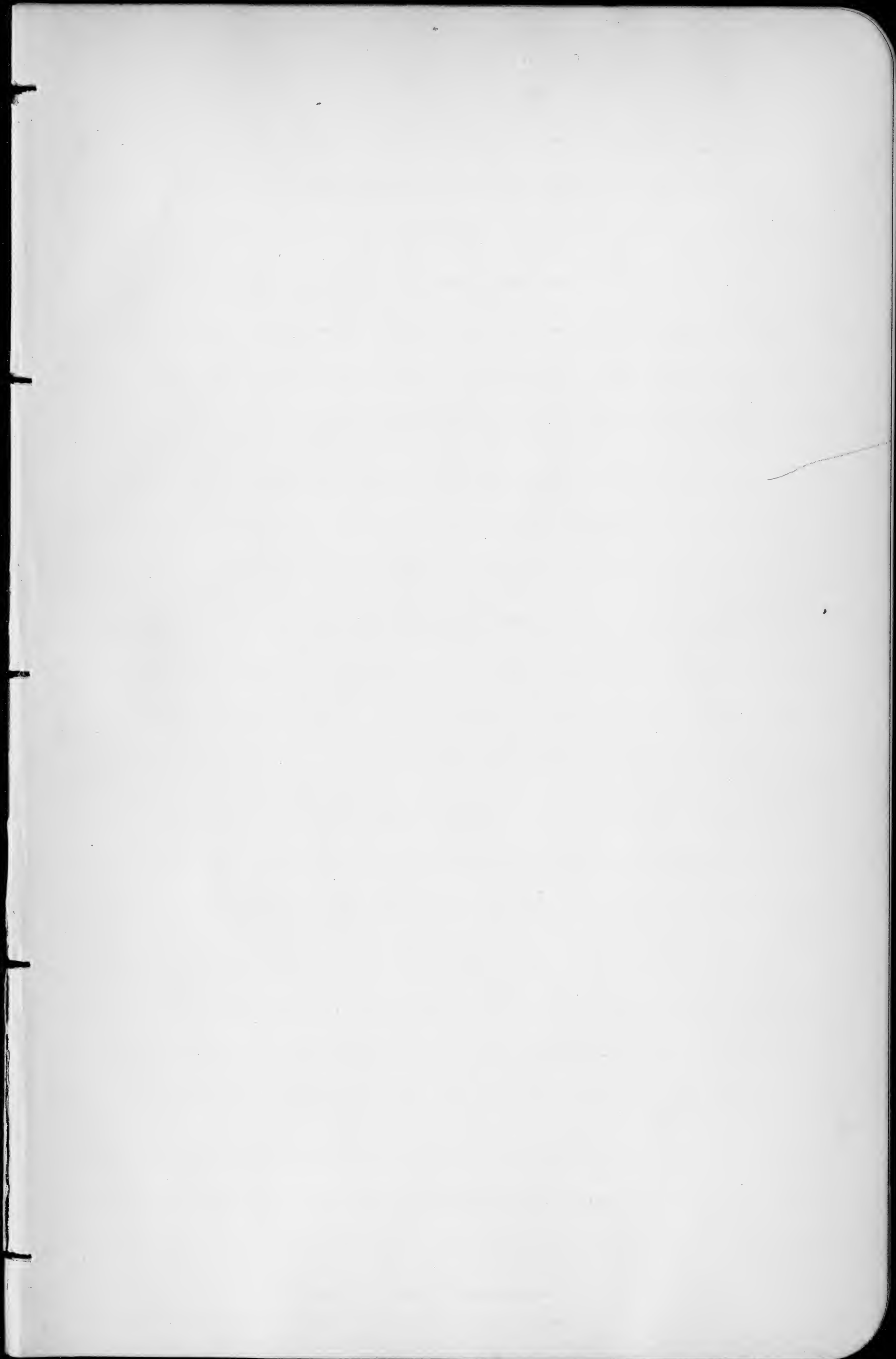
Government Camp, Mt. Hood, Oreg., Sept. 9, 1898.

On invitation of C. W. Haight, forest ranger, accompanied him and F. H. Wakefield, another forest ranger, both of The Dalles, to a fire near the Barlow road about two or three miles east of Summit Prairie. Returned to Government Camp.

Cloud Cap Inn, Mount Hood, Oreg., Sept. 10, 1898.

Left Government Camp at 6:30 A.M., ascended the south^{west} slope of Mt. Hood and came down the northeast slope, arriving at Cloud Cap Inn at ~~2~~ 2:50.





Trees and shrubs.

<i>Abies amabilis</i>	<i>Betula glandulosa</i>
.. <i>concolor</i>	.. <i>occidentalis</i>
.. <i>grandis</i>	<i>Castanopsis chrysophylla</i>
.. <i>lasiocarpa</i>	<i>Ceanothus cuneatus</i>
.. <i>lineata</i>	.. <i>cordulatus</i>
.. <i>mobilis</i>	.. <i>integerrimus</i>
.. <i>shastensis</i>	.. <i>prostratus</i>
<i>Acer circinatum</i>	.. <i>sanguineus</i>
.. <i>glabrum</i>	.. <i>velutinus</i>
.. <i>macrophyllum</i>	<i>Celtis</i>
<i>Alnus oblongifolia</i>	<i>Cercocarpus betuloides</i>
.. <i>organa</i>	.. <i>ledifolius</i>
.. <i>sinuata</i>	<i>Chamaecyparis nothkatensis</i>
.. <i>terrestris</i>	<i>Chrysothamnus albicaulis</i>
<i>Amelanchier alnifolia</i>	.. <i>bloomeri</i>
.. <i>pallida</i>	.. <i>humilis</i>
<i>Arctostaphylos arborescens</i>	.. <i>douglasii</i>
.. <i>nevadensis</i>	<i>Cornus nuttallii</i>
.. <i>pallida</i>	.. <i>pubescens</i>
.. <i>fratula</i>	.. <i>sanguineus</i>
.. <i>uva-ursi</i>	<i>Corylus californica</i>
<i>Arbutus menziesii</i>	<i>Crataegus</i>
<i>Artemisia arbuscula</i>	..
.. <i>cana</i>	<i>Cytisus scoparius</i>
.. <i>tridentata</i>	<i>Echinopanax horridum</i>
<i>Berberis aquifolium</i>	<i>Eriodictyon californicum</i>
.. <i>nervosa</i>	

<i>Eriogonum stellatum</i>	<i>Phoradendron</i>
.. <i>umbellatum</i>	<i>Phyllodoce empetrifolia</i>
<i>Fraxinus viridis</i>	.. <i>glanduliflora</i>
<i>Garrya fremontii</i>	<i>Picea engelmannii</i>
<i>Gaultheria myrsinites</i>	<i>Pinus albicanis</i>
.. <i>ovatifolia</i>	.. <i>attenuata</i>
.. <i>shallon</i>	.. <i>lambertiana</i>
<i>Holodiscus aricaefolius</i>	.. <i>monticola</i>
.. <i>discolor</i>	.. <i>munroana</i>
<i>Juncifera rana</i>	.. <i>pondosa</i>
.. <i>occidentalis</i>	<i>Polygonum shastense</i>
<i>Kalmia glauca</i>	<i>Populus tremuloides</i>
<i>Kunzia tridentata</i>	.. <i>trichocarpa</i>
<i>Larix occidentalis</i>	<i>Prunus demissa</i>
<i>Libocedrus decurrens</i>	.. <i>marginata</i>
<i>Lonicera ciliosa</i>	.. <i>mollis</i>
.. <i>corymbialis</i>	.. <i>subcordata</i>
.. <i>edulis</i>	<i>Pseudotsuga mucronata</i>
.. <i>hispidula</i>	<i>Pyrus rivularis</i>
.. <i>involuta</i>	<i>Quercus chrysolepis</i>
<i>Menziesia rosea</i>	.. <i>garryana</i>
<i>Opulaster capitatus</i>	.. <i>kelloggii</i>
<i>Oenothera coccinea</i>	..
<i>Pachystima myrsinites</i>	<i>Rhamnus alnifolia</i>
<i>Philadelphus lewisii</i>	.. <i>purshiana</i>
<i>Philop douglasii</i>	.. <i>crocea</i>
	<i>Rhododendron albiflorum</i>
	<i>Rhododendron californicum</i>

Rhus diversiloba
 .. *glabra*
 .. *trilobata*
Ribes ambiguum
 .. *atripes*
 .. *avenum*
 .. *bracteosum*
 .. *canonicum*
 .. *cerinum*
 .. *cerinum glabrum*
 .. *erythrocarpum*
 .. *howellii*
 .. *lacustris*
 .. *laxiflorum*
 .. *leptanthum*
 .. *lobbii*
 .. *menziesii*
 .. *sanguineum*
 .. *saxosum*
 .. *viscosissimum*
Rosa glauca
 .. *gymnocarpa*
 .. *macrocarpa*
 .. *microcarpa*
 .. *pisocarpoides*
 .. *woodsii*
Rubus lasiococcus
 .. *leucodermis*
 .. *nitidus*
 .. *parviflorus*

Rubus semper-virens
Rubus spectabilis
 .. *vitifolius*
Salix barclayi
 .. *discoloroides*
 .. *longifolia*
 .. *nuttallii*
 .. *populifolia*
 .. *velutina*
 .. *parvifolia*
 .. *discolorifolia*
 ..
 ..
Sambucus glauca
 .. *pubens*
Sorbus occidentalis
 .. *sambucifolia*
Spiraea arbuscula
 .. *douglasii*
 .. *lucida*
 .. *menziesii*
Symphoricarpos
 ..
Taxus brevifolia
Tetradymia canescens
Thuja plicata
Tsuga heterophylla
 .. *mentensiana*

Umbellularia californica

Vaccinium altum

.. *caespitosus*
.. *caespitosum*

.. *glaucum*

.. *membranaceum*

.. *myrtillus*

.. *obatum*

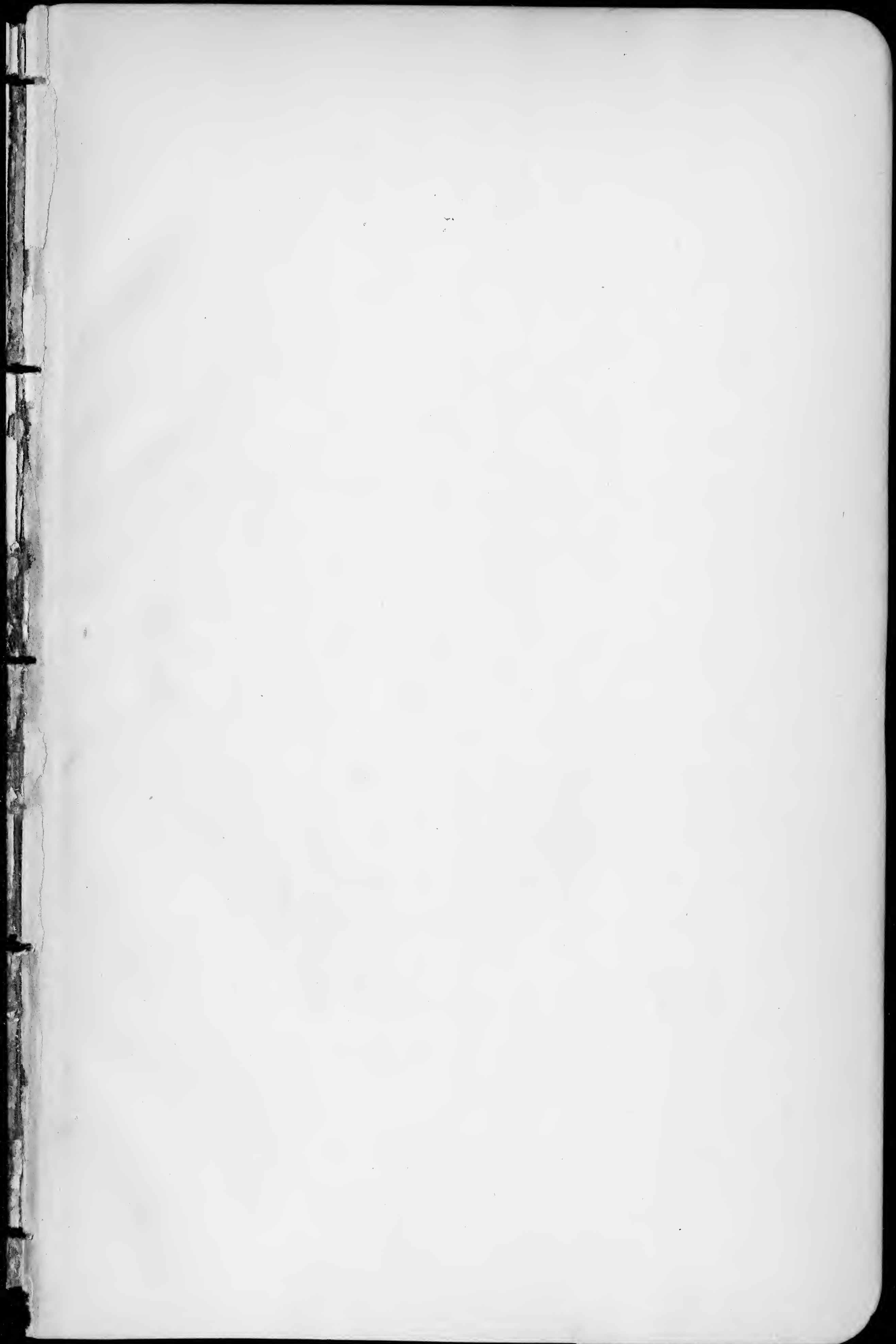
.. *parifolium*

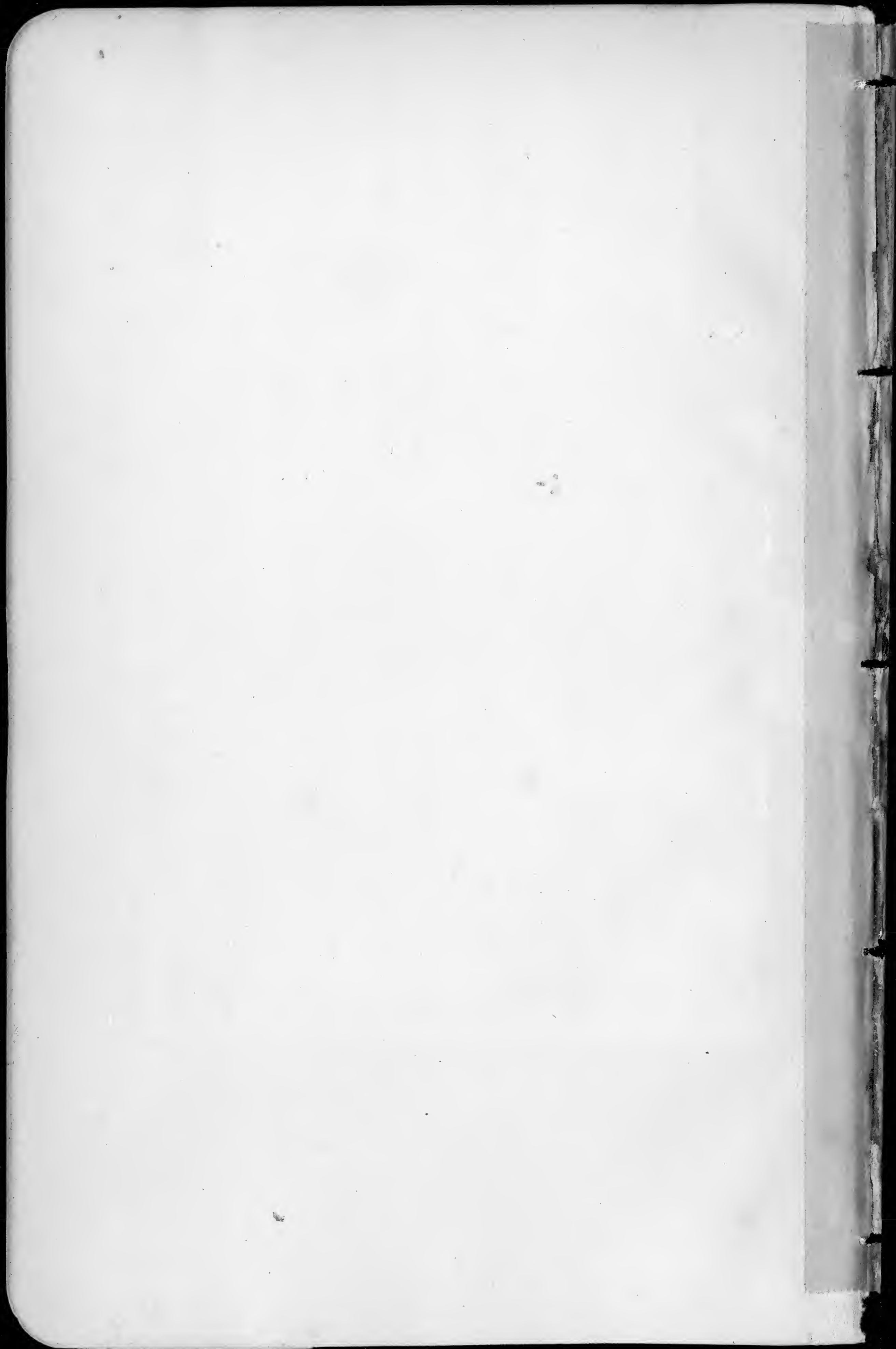
.. *scleratum*

[*Vitis*

[*Viburnum*

Mr. Washburn, Shelburn, postmaster,
will direct me to the Miller brothers
who are familiar with early fairs.





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